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DISLOCATION OF SHOULDER IN THE HORSE.

BY NOBLE SMITH, F.R.C.S. ED.

I HAVE applied my knowledge as a surgeon to the treatment of horses on several occasions, and have just lately done so in a case which perhaps may prove of some interest to the readers of this Journal.

On Saturday, March 5th, after an hour and a quarter's hard gallop with hounds over a severe country, my mare (thoroughbred) did not sufficiently rise in endeavouring to jump a high bank from a lane into a field. I believe that the bent knee must have come into contact with the bank, and that the shock thus produced forced the humerus of the near side upwards and dislocated it. The head of the bone was displaced upwards and slightly forwards, lying on the neck of the scapula; the lower end of the bone was also unnaturally high, and appeared prominent. The animal had very great difficulty in moving a few paces across the road.

Considering it most desirable not to disturb the part unnecessarily, I left her in charge of a man, and obtained from the neighbouring town of Crawley some chloroform. About three quarters of an hour from the time of accident I began to administer the anæsthetic. In falling I managed to have the mare pushed over on to her "off" side. Having thoroughly paralysed the muscles, I grasped the leg, bending it slightly backwards, then brought it down to the ordinary position (as in standing), then applied traction, and brought the limb round to a straight position in front of the animal, increasing the traction by throwing my body weight backwards.

The head of the humerus immediately returned to its normal position, its reduction being both seen and heard.

After recovering from the chloroform, the mare walked into the

town with scarcely a sign of lameness. I brought her up to London the same night, and she is rapidly recovering from the injury. She has had gradually increasing walking exercise every day since the accident.

To-day (March 14th) I allowed her to trot a few paces, which she did very well, only showing a slight disposition to trip from insufficient raising of the leg.

As I am assured by several veterinary surgeons that the result I have attained is unusually good, I may add that I believe it to be to a great extent due, firstly, to the avoidance of any disturbance of the parts until the animal was thoroughly under the influence of chloroform—not only insensible to pain, but with the limb muscles quite paralysed; secondly, to the reduction being effected rather by manipulation than by force, for I reduced the displacement by a moderate degree of traction and (as far as interference with the limb was concerned) unaided.

MATERNAL DYSTOKIA, CAUSED BY INDURATION OF THE CERVIX UTERI (COW).

BY J. G. CROSS, F.R.C.V.S., SHREWSBURY.

THIS very interesting case happened in my practice March 10th, 1887, being called in to an aged cross-bred cow unable to calve. On my arrival I found the animal straining severely, with the os uteri protruding occasionally. Vaginal and rectal exploration indicated that the parts were satisfactory for calving, with the exception of the cervix uteri, which was in an indurated condition, and constricted to such an extent that two fingers only could be introduced, and presented a livid nodulated form of tumour when strained between the labia of the vulva. The straining being very violent and fearing rupture of the organ, I gave a large dose of Chloral Hydrate, which relieved the animal almost at once, and enabled me to further examine and endeavour to dilate the os uteri, also to satisfy myself that I had not a case of spasm or torsion of the uterus to deal with. On careful consideration, I resolved to attempt delivery by incising the cervix, being satisfied from my examination that I had no cancerous or ulcerated condition to deal with. Not having a convenient bistoury with me, I went home for one, and on my return was disgusted to find that the owners (notwithstanding, as they admitted, the cow was tranquil), had ruptured the uterus, and dragged the calf away by main force, and with it the uterus, and the cow was just dead. I then had a good opportunity of examining the condition of the parts, and found the cervix uteri affected with fibrous degeneration, almost cartilaginous in its nature, and to such an extent, that had I resorted to vaginal-

hysterotomy, I believe I could only have saved the calf, as the incisions would have to have been very extensive to have effected delivery. This pathological condition has been described by Fleming in his "Veterinary Obstetrics" as almost peculiar to the cow, and accounted for by the fact that irritation produces in the bovine species phenomena of induration much more durable than in any other species. I have, however, met with this condition, more or less, in the ewe on five occasions, and had unfavourable results from operating in each case; thus differing from four cases in the cow, all of which turned out well. The only history of the above case I could glean was that the cow had brought six calves previously, all healthy and well, and that at the last conception she had suffered from gonorrhœa, or, as the owners said, had been badly burned by the bull, and it took a lot of zinc and bluestone to cure her, which treatment may perhaps have been the cause of the indurated condition above described.

ENCEPHALITIS.

BY GERALD H. FENTON, F.R.P.S., A.V.D.; STATION (FEBRUARY) HOSPITAL, KAMPTEE.

Amongst the various disorders and complications, functional and organic, of the brain, which have come under my notice, such as Vertigo, Cerebro-spinal Meningitis, Epilepsy, Rabies, poisoning, etc., I have never met with a case of Encephalitis until the other day. The description of this I send a copy from case-book, as diseases of an uncommon occurrence are generally interesting. Having looked through the registers in my charge and statistics I see no Encephalitis. Many affections of the brain have similar symptoms, associated, however, with their own special characteristics, and the case in point—a bay waler mare, thirteen years old—excited my curiosity not a little, from the appearance of the eyes, which are naturally large—in fact, they resembled, for description, a pair of policeman's bull's-eye lanterns. There was an entire absence of any violent symptoms, the biting at the wall of her own shadow was done gently, and she had a great desire to drink, but only took a little at a time, owing to the great difficulty in swallowing. As to the cause, I can only suggest that it was the food, as at this time I had several cases of Colic, all of which, in addition to the usual symptoms, were more or less drowsy. I carefully examined the grain, and found a quantity of immature grain, and some foreign matter, which I at once reported, but the other horses of the regiment were not affected; so the suggestion of food being the cause became somewhat weak, unless these animals by any

chance got a larger share of the foreign grain and had a stronger predisposition to this disorder. The hay is exceptionally good.

The following is the extracts from case-book :—

Case No. 127, *C.* 29, *4th Madras Cavalry.*

Encephalitis. February 14th.—The patient was reported as going very slowly through her feed the day before. To-day she showed peculiar symptoms—very dull, falling asleep whilst standing, trembles, legs wide apart, the eye amaurotic in appearance, pulse slow and rolling, and the patient alternately sleepy and excited ; at times hanging back and pushing the wall with her hind quarters, at other times biting at her shadow on the wall and occasionally falling down, but not violently, and rising again ; the muscles at times becoming quite rigid and the tail elevated, as in Tetanus. Treatment. Bleed the patient at once from the jugular ; took six quarts, which seemed to have a good effect very soon afterwards ; also administer Aloes 3vi in solution. Keep Magnesia Sulphas, about 8 or 10 ounces, in the drinking water. The patient also had a cloth, which was kept constantly wet, applied to the head.

15th.—The patient is about the same, having passed no fæces and only a very little urine of a high colour. The bowels are undoubtedly paralysed. The patient still at times bites at her shadow. Repeat the Magnesia Sulphas in a draught, 10 ounces in a bottle of water, throw up enemas, and inject hypodermically Sol. Morphia acet. The patient was quiet for about an hour, when she began to walk constantly round the box, and kept on doing so nearly all the night. She at times swallowed a few mouthfuls of gruel, but from the first she had difficulty in swallowing, owing to paralysis in this region also.

16th.—Patient much better, the bowels having acted and urinated freely, but the mare has still the straddling gait, and the fixed appearance of the eye ; less difficulty in swallowing ; give beer, and beef tea in small quantities. Continue a little Magnesia Sulphas in the drinking water. The fæces passed were semifluid, and had a most offensive odour.

17th.—Improving. Discontinue the Sulphate of Magnesia in the water, and substitute Bromide of Potash in four-drachm doses twice a day.

20th.—Doing well. Decrease the Bromide of Potash to two drachms twice a day, and give vegetable tonics.

25th.—The patient walks about the box much freer and does not keep the fore limbs so wide apart. Give ten minutes' walking exercise twice a day.

28th.—The patient has much improved, increase exercise to half an hour twice a day.

March 4th.—Patient quite convalescent, appetite very good, and all brain symptoms have disappeared. Continue tonic balls and increase exercise.

12th.—Discharged. Cured.

OIL OF EUCALYPTUS.

BY J. A. NUNN, F.R.C.V.S., ARMY VETERINARY DEPARTMENT, NATAL.

THE oil of the Eucalyptus, or Australian Gum Tree, although for some time past used in human, has, so far as I am aware, up to the present time, not attracted much attention in veterinary medicine. It is chiefly manufactured in South Australia by distillation from the fresh leaves of the *Eucalyptus Amygdalina* and *Eucalyptus Globulus* or Blue Gum; but doubtless any of the other species—*Eucalyptus Resinifera* or Iron Bark, *Eucalyptus Corymbara*, *Eucalyptus Rodrata*, *Eucalyptus Citriodora*—are also used for the purpose. In the fresh state it has a pungent aromatic odour, and is of a white or pale straw colour; but it becomes darker and thicker on exposure. Its specific gravity is about ·900, but it varies in this respect. Administered internally, according to Ringer and Cloetz, it increases the internal discharges, and in excessive doses causes profuse diarrhœa, with the characteristic odour of the oil. It also acts as a diuretic, and excites perspiration. The *Unguentum Eucalypti* is official in America, and is prepared by adding one part each of hard and soft paraffine when melted, and stirring together until cold.

In certain cases of Urticaria and Eczema, which are exceedingly troublesome in Australian horses during the rains in India, I found that one part each of Iodoform and Eucalyptus to eight or ten of vaseline, produced an excellent result. In veterinary practice I have found it a superior dressing to any other drug in cases of castration, in the proportion of one to eight or ten parts of olive or sweet oil. In several cases that were operated on during the rainy season in India, and to which the ordinary carbolic dressing was applied, all the premonitory symptoms of schirrous cord appeared after the second or third day, but on changing to the oil of Eucalyptus they at once subsided, and the patients did well.

It is also a most wonderful deodorizer, and I found it had a startling effect in keeping off flies, which in a warm climate are most troublesome to wounds.

PRUSSIC ACID POISONING.

BY F. W. BARLING, STUDENT, DICK'S (ROYAL) VETERINARY COLLEGE.

On the 7th of March a Scotch terrier bitch was brought to be poisoned, having been lined by a cross-bred dog. She was within about a week of her time for pupping. I poisoned her with three drams of prussic acid. After she had been dead ten or fifteen minutes, I took the pups away from her by cutting open the uterus. There were five pups, all alive. I kept them by the fire, and in five hours I took them to a foster mother, which was a large-sized one for such small pups. She would not take to them, but we kept them on as well as possible, but all the pups died the next day from exposure to cold. The liver and blood, on analysis, contained prussic acid. If any one has tried any experiment of the kind, I should be glad if they would inform me with their results through the medium of this valuable Journal.

SOUTHERN CATTLE FEVER.*

BY W. F. WEESE AND L. R. BRADY, VETERINARY STUDENTS.

Synonyms.—Spanish Fever, Texas Fever, Splenic Fever, Periodic Fever, Gastric Fever, Acclimation Fever, Murrain, Bloody Murrain, etc.

Definition.—An exceedingly fatal epizootic specific communicable Fever of cattle, at present confined to regions south of lines indicated on the map; except as communicated to cattle north of this line by cattle brought from south of it.

History.—Remarkable as it may appear, our first accounts of this disease, as at present recorded, did not come from the region to which it is generally supposed to be indigenous, but from those sections beyond this, to which it had been conveyed by the movements of cattle. The first authentic account of this disease, or one which very closely resembled it, was mentioned by Dr. D. E. Salmon, Veterinarian Department of Agriculture of United States, in a paper read by him before the American Public Health Association, at its annual meeting in 1883, and published in the *Journal of Comparative Medicine and Surgery* in July, 1884. This outbreak occurred in Lancaster, county Pennsylvania, during the month of August, in the year 1796, and was attributed to infection from a drove of cattle previously brought from the state of South Carolina. We have other accounts of the disease in South and North Carolina and Georgia, and from time to time laws were

* Paper read at meeting of Veterinary Medical Association in connection with Ontario Veterinary College, Toronto.

enacted by the state of Virginia to prevent the importation of cattle from those states during certain of the summer months. Though little was known at the north of this Fever prior to 1866, and though many there were even sceptical as to the existence of any such malady, its presence and the dangers arising from it were recognised by the states of Virginia and North Carolina many years previously. From these centres the disease apparently spread. When cattle beyond the infected district were affected, as a consequence of transportation, the Fever was very intense. As the disease slowly advanced over new territory adjoining the affected district, it became milder in the location or localities previously visited. Finally, the native cattle being seldom affected, except to so slight a degree as to be scarcely noticeable.

The above history of its extension is the same that characterises the disease at the present time. The Fever having extended to Texas, and the cattle there becoming affected, the greatest loss was sustained by driving these cattle north through Arkansas, Missouri, and Kansas, and distributing them to feeders and grazers in various of the western states. As long ago as 1852-53 it was destructive in Missouri, and it is said to have existed two years before it was traced to Texas cattle. But as it was mostly confined to great roads and highways running through the country from the south, it was definitely decided in 1853 to be due to Texans, as it was then largely confined to a single highway over which these had passed. The mortality was very great among the native cattle, and it is estimated that about fifty per cent. of the cattle along the road died, and persons living near the fording places lost as high as ninety per cent.

It is from these circumstances that we get the term Texas Fever, which you see, by the history, is a misnomer. In 1861 laws were enacted in Kansas to regulate the movements of herds from the south.

Similar laws were also enacted in Missouri, Illinois, and Kentucky. The disease ceased in all these states during the late civil war, to again reappear with the first droves of Texas cattle.

History of Great Outbreak, 1868.—Notwithstanding a more or less imperfect knowledge of the ravages of this disease, the meaning of such facts was disregarded, and there was a general apathy in regard to the matter, just as there is at the present time in regard to an even worse disease—the imported contagious Pleuro-Pneumonia; and, to carry the comparison farther, there were not wanting prominent men then, as now, to make light of the dangerous character of the malady, and even to throw doubts on its very existence. But this indifference and scepticism was soon to give place to genuine alarm and consternation, because of the wide

distribution of the Fever and the remarkable losses occasioned by it.

During this year the laws enacted by the states of Missouri, Kansas, and Iowa, prohibiting the entrance of southern cattle within their boundaries, changed the direction of the shipments of the Texas and southern stock, and they were now shipped by steamboat up the Mississippi river, and were unloaded at Cairo, Illinois, this being a convenient point for them to be pastured for a few weeks to rest and recuperate, then to be reshipped by rail to the eastern markets, or to be sold to the farmers of the surrounding country for the purpose of feeding and grazing. It was not suspected by the farmers who harboured this dangerous stock that they carried certain destruction to all native stock wherever they went. The Fever first made its appearance at Cairo about June 10th.

At the little town of Tolono, at the crossing of the Illinois Central and Toledo, Wabash, and Western Railroads, from 15,000 to 18,000 Texas cattle were landed. The Fever commenced its destructive work about the 25th of July, sweeping away nearly every animal of the bovine race in that section; 235 cows died before the first of August; 926 cattle died in that township, which polled but a trifle over 200 votes and over 5,000 head succumbed in the county. At Broadlands, the great farm of Mr. Alexander, the losses were very severe, he having allowed the Texans to intermingle in his pastures with about 600 of his native cattle. All but 280 of the natives were soon sent to the eastern markets. Those left on the farm began to die July 26th; 198 were lost, including a yoke of old Texas steers which had been on the farm for some time.

Of the cattle sent east, 224 died before they reached their destination, and the remainder are said to have been sent to the rendering tanks. The disease also broke out in Indiana about July 25th, and also in Ohio, near Cincinnati, and at other places in the above-named states, the death loss being very great in all instances.

This brief sketch, the facts for which were mainly gathered from the Department of Agriculture's reports on diseases of cattle, 1871, and the report of the New York State Cattle Commissioners, 1869, might have been considerably extended by noticing outbreaks of less extent in various parts of the north from Illinois to Rhode Island, but I trust that what has been said is sufficient for the object, viz., to give an idea of the destructiveness of the fever in localities where the native cattle have not been inured to its essential cause by long exposure. Thus we see that as the disease progresses along the so-called front or dead line, the native cattle are swept

away in something like the proportion we have seen in Illinois, that is, from fifty to ninety per cent. There is consequently a considerable area of country along this great line, stretching from Virginia, south and west, to the Rocky Mountains, where the cattle are subject to such ravages.

Theories in regard to its Development.—Professor Gamgee spent ten months in the study of this disease, and his views certainly cannot be dismissed without a careful consideration. The disease is enzootic, he says, where the prevailing influences are such as to favour development of Intermittent Fever in man. He did not fail to find gastric erosions in Texas cattle, though he opened as high as 26 a day. From the earliest day the calf feeds on grass to the oldest day the bullock attains the lesions are found.

And during summer a few bullocks in a herd may be seen to drop behind the others and to void bloody urine. It is important to show how it differs from maladies which spread from country to country, devastating broad tracts of land and calling for the most decisive and energetic means for their suppression. It is not an *epizootic* and not spread by contagion. The true plagues or epizootics spread by direct or indirect transference of an animal poison or virus from a sick to a healthy animal. These poisons take effect without regard to seasons and are alike developed in the systems of sick animals. It is not contact with Texas cattle that induces the malady. The animals affected do not propagate it to other animals. Even coming in contact with Texans through a fence, drinking the same water, or being housed in a shed with sick natives, does not induce it. We must therefore distinguish it from contagious maladies and refer it to another group. This is an enzootic originating in various parts of the Gulf States. Florida cattle are as dangerous as Texans, deriving the same deleterious properties from the soil on which they are reared, and, in all probability, from the vegetation on which they feed. It is indigenous to the south, and as far as Texas is concerned is universally prevalent. Southern cattle become charged with principles which are thrown off in the excretions for many weeks, and they necessarily deposit a large amount of whatever they excrete. Thus pastures are contaminated, the grasses of which prove deadly poison to susceptible cattle. It is certain that feeding on land over which Texans have passed is the ordinary, and probably the invariable, cause of Splenic Fever.

Southern cattle become affected in consequence of the nature of the soil and vegetation on which they feed and the water they drink, and with northern animals it is a modification (a poisoning of the food), possibly of the water tainted by the manure of the southern cattle. It is thus with human Cholera. There is some-

thing tangible and preponderable (which some future chemist or bacteriologist may reveal), that renders the grasses, and perhaps the waters, of the south so deleterious. It is not a contagious plague, and will probably cease when the agriculture of the south is fairly well developed.

This disease is likened by Prof. Gamgee to Malignant Anthrax, Milk Fever, and also to the remittent, intermittent, and typhoid Fevers of man.

It will be seen that Prof. Gamgee has made an able presentation of his views, and that he has drawn arguments to support them from his great experience in different parts of the world.

But I may safely say that the investigations which have been made in the last few years, in regard to the history and present distribution of the disease, render these views, which I have endeavoured to fully and fairly present to you, entirely untenable.

The Disease is not Confined to Localities to which its Origin is Attributed.—As I have already shown, this disease is distributed over an immense area, where the soil is elevated, rolling, sandy, and well drained, and containing but the very smallest quantity of organic matter; where, consequently, the vegetation is sparse and should be free from the poisons to which Prof. Gamgee refers. This district comprises a great part of North Alabama, Georgia, north-western part of South Carolina, and a belt in North Carolina, extending from the Blue Ridge more than 200 miles eastward, and the Virginia district, embracing Halifax and adjoining counties—as far as known, a district in itself nearly or quite as large as England and Scotland combined.

It exists permanently where Intermittent Fevers are unknown.—If, now, we examine the eastern foot hills of the Blue Ridge, where the southern fever is now recognised to be a permanent institution, we find the disease existing where I believe it is justly claimed that there is perfect immunity from intermittent fevers among people, certainly as free from them as the middle and western states, and where the heat is no greater in the summer. Here, then, we have complete evidence to prove that this disease does not require a peculiar soil for its development, and that it is entirely independent of any miasmatic influence which would develop the fevers of man.

It is an Epizootic.—It is difficult to see how it can be claimed that the disease is not an epizootic. An epizootic is a disease existing over a large extent of country, and capable of indefinite extension; an enzootic is a disease attacking a considerable number of animals in a particular locality, and depending for its existence on local conditions. That a disease is an enzootic affection is no guarantee that it may not become epizootic, nor can we dis-

tinguish between such diseases by peculiarities of origin or transmission alone. It is the extent of country which is involved, and its capabilities of extension that are to be considered. The Southern Cattle Fever may therefore be properly recognised as enzootic in the south, but it certainly possessed all the essential features of an epizootic in 1868.

Comparison with Malignant Anthrax.—We have seen that a mistake was made in supposing that Southern Fever originated exclusively on low, wet lands, and we will not dwell upon it now longer than to remark that as to origin there is consequently no resemblance in the character of the soil to which they are at present indigenous. Anthrax, besides, is a common disease in the north. Again, Anthrax is an inoculable disease, and is occasionally transmitted in stables, and to no great extent in pastures; and in none of these points is there a resemblance. It is only the enlarged spleen, congested and engorged kidneys, the congested and enlarged liver and hæmaturia, that the diseases have in common; and these features occur, as has been mentioned, in a number of diseases and in poisoning by various agents.

True nature and causes.—The present tendency of science is to consider this disease to be due to parasitic organisms of a vegetable nature. One by one the theories have been abandoned by the profession, and the germ theory now seems the most feasible of all. To bring about its evolution has required many years of efficient work on the part of such noted scientists as Pasteur, Koch, and others. While there is a great deal more to be learned relative to the cause and nature of Southern Fever, the smoke of the contest is fast clearing away, and one of the most important obstacles seems surmounted. The disease is anthracoid in character, and is probably due to the *Bacillus Anthracis*. All observers admit that there is a period of incubation; but it is a difficult matter to arrive at the exact period from the history of these outbreaks, since we can not tell exactly when the disease germs find their way into the system. To arrive at an approximate period, it is necessary to take the time from the first chance of exposure till the disease becomes manifest by its apparent symptoms. In Indiana it was from June 1st to July 25th, or fifty-five days. At Cairo, Illinois, in 1867, this period was six weeks.

In Ohio it appeared to be about forty-seven to fifty-seven days. In other places we have the cattle sickening in a variable period from thirteen to sixty-five days. It is reasonable to suppose that the incubatory period may vary in accordance with the virulence of the disease and the circumstances and peculiarities under which the cattle are subjected. It would appear, from the history of the outbreak, that the average is about fifty days. In all outbreaks of

this disease, as is also true of all other contagious diseases, there are some animals which, though exposed to the essential cause, never contract the malady, and among the adult animals brought south there is a small proportion which never contract it. The larger proportion of southern cattle dealers have contended that the disease did not exist among their cattle; however there is a preponderance of evidence against them. I do not care to dwell on this fact, as the present condition of our knowledge is not such that we can thoroughly define its meaning. We do not know whether it is necessary for southern cattle to show pathological lesions or not, in order to communicate the disease, but will suffice by saying that a portion of them do present appearances similar to those seen in fatal cases at the north. Southern cattle grazing upon infected pastures have the disease probably in a mild form. Why these cattle should have the disease in a mild form only, while northern cattle taken into the infected district are almost sure to have it in a virulent form, is a mystery. The cattle which are constantly exposed become inured to its influence; these germs are taken into the digestive organs, which form a vast magazine of death-dealing agencies, when the southern cattle are taken northward upon non-infected grounds. The extensive digestive organs of the steer make it possible to infect with the excrement large tracts over which he may feed. How long a time transpires before these germs are entirely eradicated from the system is not definitely known. It is, however, estimated to be from seventy to ninety days. While cattle taken from the infected to the non-infected districts will convey the disease to northern cattle, nevertheless the northern cattle are incapable of communicating the disease to other native cattle.

The explanation offered for this is that the southern cattle being insusceptible to the disease the germs are unable to propagate themselves within the animal economy, and hence the animal is incapable of infecting the grazing ground after the designated time. When, on the other hand, the native cattle are attacked with the Fever the disease germs enter the lymphatics, particularly of the liver, spleen, and mesentery; hence there is no way by which they could escape from the system of the sick animal. The disease rarely makes its appearance before the first of July, and Texas cattle may graze with natives with impunity in the early part of the summer season. A few sharp frosts put a stop to the ravages of the Fever, entirely eradicating it in those sections outside of the permanently infected district, while within the districts frosts merely check it until the following season.

(To be continued.)

ECHINOCOCCUS CYSTS IN THE LIVER AND LUNGS OF A HORSE.

BY FITZPATRICK EASSIE, M.R.C.V.S., MR. G. T. PICKERING'S VETERINARY INFIRMARY, YORK.

BELIEVING that the presence of these larvæ in the horse are comparatively rare, I venture to record a case which came recently under my notice.

I was called, in the absence of Mr. G. T. Pickering, to see an aged cart horse, whom the man reported to be suffering from a bad attack of colic. On my arrival I found the animal had all the symptoms of acute Peritonitis, due I surmised to a rupture at some portion of the alimentary tract. The prognosis was unfavourable, but nevertheless I exhibited opium, to arrest peristalsis, and prescribed hot fomentations to the abdomen. When I called an hour later I was in time for a *post-mortem*.

The time which elapsed between the first manifestation of disorder and the animal's death was about six hours.

Autopsy revealed the usual lesions found after death from Peritonitis. The whole surface of the peritoneum was congested and discoloured, and the intestines contained a large quantity of watery coffee-coloured fluid, due to passive congestion. The stomach—which was full of dry ingesta—was rent along its greater curvature to the extent of about six inches, and the pyloris was considerably tumefied. That the rupture was *ante-mortem* was manifest by the attenuation and congestion of the gastric walls.

On examining the liver I found ten or twelve cysts, varying in size from a small to a large fowl's egg, and containing, to the extent of their capacity, a watery transparent fluid, in which there appeared a reddish granular sediment. In the lungs the same lesions were apparent, both organs being otherwise healthy.

I recognised the cysts as those of the Echinococcus Veterinorum, often seen in the organs of the ox and sheep, and, on inspection, Mr. Pickering supported my views.

RABIES IN CATTLE.

BY DR. FRANK S. BILLINGS, DIRECTOR OF THE PATHO-BACTERIOLOGICAL EXPERIMENTAL STATION OF THE STATE UNIVERSITY OF NEBRASKA.

IT is well known to the public, as well as to many of my professional colleagues, that I have nourished a most extreme degree of scepticism with regard to the frequently reported prevalence of Rabies among our domestic animals, especially dogs, ever since my

connection with the somewhat notorious Newark boys, which case proved a most ridiculous farce for every one connected with it, except it were in a pecuniary degree to the boys, and the advantages which it offered myself to visit Pasteur's laboratory in person and to become practically acquainted with his views and methods. One writer upon this fiasco spoke of my decided German tendencies, and the little liability of my becoming infested with Pasteurmania; which demonstrated a correct judgment upon his part, for Pasteurism, with regard to Rabies, made but little permanent impression upon my mind and excited a scepticism which has not decreased with time, but has continually augmented both as to the value of his preventive methods as to Rabies, but more especially as to his being a trustworthy authority on bacteriological questions in any technical sense, except perhaps from a chemical point of view, and that in a very slight degree. These remarks have no reference to M. Pasteur's work on the ferments, but only apply to his bacteriological knowledge so far as it bears upon pathogenic bacteria, their morphology, biology and specific action.

My scepticism upon Rabies in America has been much augmented by several rather ridiculous experiences with American physicians, who certainly displayed a most decided mania for any advertisement that could be got out of a trip to Paris with a "mad-dog bitten patient." One of these experiences will bear repeating.

Two so-called physicians came to me, after my return from Paris, while living in New York, with a man who was a noted dog trainer and not unknown to me by reputation. They reported that the man had been bitten by a mad-dog some two weeks previously and that out of their benevolence and humanitarian feelings, they were going to take him to Paris by the French steamer the next day, and were paying all his expenses.

Naturally, I was much interested in the history of such a case, and as I had to do with a known "dog-man," I determined to catechise him somewhat and requested the physicians (?) to have him with me that I might do so, to which they readily consented.

I was soon convinced that the man had far more fear of the dangers and unpleasantness of a sea voyage than he had of Rabies, and intentionally drew a very vivid picture of an Atlantic passage in winter. The result was that the man told me that he was only accidently bitten by a valuable dog that was still alive, and that he had no fear of Rabies whatever, but that the doctors had somewhat excited his fears, so that he was willing to risk it, "on being paid five hundred dollars and his expenses."

The fear of the sea prevailed, and as the desired introduction to Pasteur was not forthcoming, the man, at least, went home. Where the physicians went I do not know.

Several somewhat similar experiences, and the fact that I endeavoured to trace up and follow down a number of cases of Rabies, which were reported in dogs, but proved arrant Lyssophobia, did not tend to increase my belief in the frequency of Rabies in the animals in the United States.

Since being in Nebraska, we have not been without rumours of a similar nature, and though especially interested in and engaged to investigate that western pest, the "Swine Plague," in which I have been successful beyond my most ambitious aspirations, still I have found time to watch a rather remarkable outbreak of hypothetic Rabies among quite a number of cattle that were asserted to have been bitten by a "mad-dog."

The biting occurred July 17, 1886, and ever since then I have held the case in view, but with the coldest blooded scepticism until November 5, 1886, when the force of circumstantial and perhaps positive evidence, has led me to the conclusion that these cases must have been, indeed, genuine Rabies, for I knew of no other disease of whatever nature, whatever its etiology, in which the same phenonema could possibly occur with the same unchangeable regularity.

What the evidence was, I will now present to my readers and and then allow them to draw their own conclusions.

History.—About 4 p.m. on Saturday, July 17, 1886, a stray dog, said to have been a shepherd, was observed crossing the highway, about seven miles from the town of Crete, Neb., and to enter the adjoining pasture in which were a large number of grazing cattle, mostly two and three-year-old steers. The dog at once dashed in among the cattle; chasing and worrying them with great pertinacity, though the cattle were in no ways backward in going for the dog but did not succeed in driving him off. He was seen to bite several of them, and indeed to catch some of the them by the nose and throw them down. The farmer who observed the dog enter the pasture and its very singular and vicious actions, at once sent word to his neighbours, some of whom owned the cattle, so that in a short time quite a number of persons had collected. The steers in the first mentioned pasture frequently succeeded in driving the dog into the next pasture, in which there were cattle, also which the dog bit and worried in the same manner. In this way the sport went on for about two hours, notwithstanding the efforts of the men, some of whom were armed with revolvers. The dog seemed to find so much more to attract its attention in the cattle, that he did not offer to attack the men present, only taking notice enough of them to try and evade them. It finally became exhausted and slunk away across the fields, where it was followed and found in such an exhausted condition, lying in an excavation

in the earth, that the finder stamped it to death with his boots without its being able to make any resistance. I have since learned that it also bit two dogs on its way to these pastures, and one calf, which will be noticed presently; the dogs were immediately killed. On November 5, I was also informed that still another dog had been bitten by the dog, which was not killed until recently, when the owner observing it to be mad, as he says, shot it; this must be taken *cum grano salis*, so far as the "mad" is concerned.

It is of the utmost importance, in the consideration of this outbreak, to know that these pastures bordered upon the Blue river, and that all along its banks were numerous pastures, in continued succession, in both directions from the two in which the cattle was bitten and hazed by the dog were grazing. Though the grasses, weeds, trees and shrubs, as well as the river water, were all the same in all these pastures; still not a single animal of the bovine species has died of any other disease in any of the other pastures, or among the cattle which have lately been removed from them, during all this time, since July 17, except one cow that died from an undoubted attack of Puerperal Eclampsia, and one calf that was in a field, which was on a line with the course which the dog must have passed over in order to get into the pastures mentioned.

Mr. Imhoff, who owned the calt just mentioned, is a very intelligent German farmer, and reported the following to me.

This calf was six months old, and perfectly well up to the time of the accident. It was constantly kept in a small pasture near his house. He observed the dog come into his pasture and make at once for the calf, which it worried and bit for a few moments and then left it, going out of the pasture in a direction directly leading to the previously mentioned pastures. The calf was taken about August 15, and lived nine days. The symptoms observed by Mr. Imhoff corresponds in every particular with those reported by the owners of the other cattle, with reference to the cattle which they lost; there was great irritability and uneasiness, wild appearing eyes; constipation with repeated straining in the earlier days of the illness, terminating with a tendency to diarrhœa, the fæces, however, being only passed with difficulty and in small quantities; the urine was passed frequently and in small quantities; desired to eat and drink, but could not swallow, masticated food, dropping it again out of the mouth, and the fluid flowing out of the nose; was not unduly excited at the approach of those it was acquainted with, nor by the presence of the house-dog to which it was accustomed, but on a flock of ducks getting into the field it rushed upon them and stamped and tore several to pieces before they

could escape; it finally became paralyzed in the posterior extremities and greatly emaciated.

The other owners report similar phenomena in the older cattle. They were very much excited and uneasy and chased the other cattle around with great fury, horning them frequently and bellowing furiously all the time. They all noticed the peculiar hoarse, dull tone of the voice; they were all constipated and strained much in their endeavours to pass manure; some became diarrhaic, others not; urine was passed frequently and in small quantities; they would try to eat and drink, but would soon give it up, for the time, in apparent disgust; they could not swallow, and the half-masticated food or drink would either be dropped from the mouth or flow out of the nose. They all report that they were not exceedingly excited by the presence of the men who salted them, but that if strangers came into the field they would chase them furiously, and in several cases they had to climb trees to escape them. When confined they would stand listlessly in one place for a long time; but occasionally, or when the other cattle approached the pen, or human beings came near them and made any unusual movements, they would rush furiously and blindly against the barriers; the eyes were wild and lids wide open. They all became more or less emaciated, and those which were not killed, paretic, sometimes in the fore, but more frequent in the posterior extremities. The cows which were affected rapidly ceased to secrete any milk.

Mr. E. L. Potter, one of the sufferers, and the one living nearest to and hence having the best opportunity to observe the affected cattle, kindly sent me the following report of the casualties:—

One heifer died August 15, 1886, twenty-nine days after attack.

One cow died August 18, 1886, thirty-two days after attack.

One cow died August 19, 1886, thirty-three days after attack.

One steer, killed by me, August 19, 1886, thirty-three days after attack.

Three steers, killed August 20, 1886, thirty-four days after attack.

Four (one steer, three cows) died August 22, 1886, thirty-six days after attack.

One steer died August 24, 1886, thirty-eight days after attack.

One steer, killed by me, August 28, 1886, forty-two days after attack.

On the evening of November 4, 1886, Major Birney, one of the Nebraska Sanitary Cattle Commission, told me that another steer had just been taken in same manner, which belonged to a Mr. Vance, who had already lost nine and owned the two which I had previously killed and examined.

On the morning of November 5, I proceeded to Crete, accom-

panied by Dr. Thomas Bowhill, M.R.C.V.S., a graduate of William's College, Edinburgh, and one of the most accomplished and best educated veterinarians it has been my lot to meet, who is temporarily acting as my assistant, but until recently was in practice at Sioux City, Ia., and Dr. Thomas, V.S., of Lincoln, Neb. Mr. Vance informed me that since I was last there, August 28, six more cattle had died at considerable intervals between each other, and that all presented exactly the same symptoms, and that he had still another confined in his scale pen that had been ill since the third, and which had exhibited the same symptoms as the others had in early stages of their illness. As Mr. Vance had had opportunities of observing nine previous cases among his own cattle, he had become quite well acquainted with their actions.

Before entering upon consideration of my personal observation of the clinical and macroscopical phenomena in the cases which I saw, I wish to call attention to one fact which made me very sceptical as to the Rabies theory in connection with this very striking outbreak; nevertheless, the most critical observation of everything connected with the animals, and a most exact cross-questioning of the owners could not bring out a single moment which would speak for any other hypothesis.

The fact was, that so many animals should have died at so nearly the same time, with such short intervals between the deaths; there having been in one case, three deaths on the same day, and that thirteen cattle and one calf should have either died, or been killed, within a period of thirty-eight days from the day upon which they were seen to have been worried by the dog. From some very casual studies of the literature at my command, I have made a list of 400 cases of reputed Rabies in cattle; the average period of incubation in these cases was forty-four days; the shortest nineteen.

I could scarcely make it conform to our knowledge of this disease that so many animals should perish in such a short period and nearly at the same time, after being ostensibly bitten by one and the same dog. I therefore reported to the owner, at the time of my first and second visits, August, 1886, "that there was no other moment upon which we could place any etiological support, and that I considered they were justified in adhering to their mad-dog theory, and that for the present, I must say, that if the cases were not Rabies, that I did not know of a single bovine disease, which, considering the history, the phenomena were conformable to, other than Rabies."

My scepticism has, however, been almost entirely removed by the occurrences since then, especially by the history reported to me by Mr. Vance, on the 5th, and by the steer seen then, for the following reasons:—

1. The cattle which have died since then, have all presented phenomena which corresponded in all essentials to those seen in the others, and correspond in every paticular to those given in our last text-books for Bovine Rabies, except licking or gnawing at any one particular part of the body.

2. The intervals between the deaths having become more extended, is still more evidence for the Rabies hypothesis.

3. No other cattle, in or from the adjoining pastures, have since died.

4. As other cattle had been placed in the same pastures in which the diseased ones—and other cattle that were there at the same time—were, both during the outbreak and since, that there could have been no common local cause of an infectious or intoxicating nature in said pastures, as there has been no deaths among said cattle since, from other causes.

5. The cattle were all removed from the pastures some four weeks since.

6. The case seen by me November 5 presented the same symptoms for the early stage that the others had; 108 days had elapsed since the dog attacked the cattle and this one was among them at that time.

I will now give the phenomena presented by this last animal, as they bear directly on the above conclusions, though I will have to refer to them again later on. Mr. Vance reported that the first thing which attracted his attention to this animal, which was on the 3rd of November, was its very nervous and irritable condition; it was much excited, bellowed furiously with the peculiar changed voice noticed in his other cattle; it would rush at and horn the other cattle, and tumble the hogs round right and left, and then stand panting and exhausted for a time, when the same manœuvres would be commenced again. Its eyes were wild and distended, and it frothed at the mouth. It could neither eat nor drink, though it would take food and water into its mouth as the others had. It was constipated.

The animal was lassoed with some difficulty and placed in the scale pen, where we found it on the morning of the 5th. It at once became more quiet, unless approached by strangers or the pigs, when it would charge furiously against the walls of the pen.

Status-præsens.—Red steer, two years old, somewhat thin, standing in a pen over the scales. It remained quiet until I suddenly rushed by its pen when it made a furious rush against the barriers. The pupils were distended in the perpendicular diameter, the eyes were wide open and had a peculiar wild look in comparison to those of other cattle standing in a neighbouring field. It had only passed manure once since yesterday, but urinated several

times in the twenty minutes we had it under observation; the manure was dry and hard and passed with difficulty in a small quantity. I neglected to mention, in my previous account of these cases, that the cattle would take the manure into their mouths and chew it and try to drink their own urine. Mr. Vance reported the same in this case. Pulse and temperature could not be taken; at least it was not prudent to try it on. On driving some pigs up near the pen, the animal charged them furiously; when driven away again, it soon became quiet. On corn being given it, it would take hold of it greedily, but soon stop masticating, as if from disgust, and allowed it to fall from the mouth again.

On a pail of water being placed within its pen, we observed a most singular phenomenon; one which has never been described before, so far as I know, and which was not noticed in any of the other affected cattle.

The animal dipped its nose deeply into the water, and tried, for a moment to drink, but finding it impossible to swallow, with a really intellectual perception of its own condition, it became more furious than we had seen it, or I had seen any of the others in confinement, and went for that bucket until it had smashed it to bits; it was only quieted when we removed the remnants through the fence with a fork.

If the above was not intellectual action—the desire to remove an offending, yet much desired and irritating object out of sight, I do not know what it was.

It exactly corresponds to the phenomena seen in human beings in reputed cases of Rabies, and goes far to confirm any conviction that Dulles, of Philadelphia, has gone altogether too far in denying the existence of Rabies in human beings. It shows still another thing.

There is no such thing as Hydrophobia!

Man does not fear water any more than this steer did. He does fear pain of swallowing, or what is worse, he fears that in attempting to swallow he will choke to death.

This steer could not have any conception of the latter, but he had gained an intellectual perception of the fact, that he could not swallow; there was no evidence of pain, however, and knowing that, he smashed the offending bucket to pieces, just as a man under the same circumstances would dash a glass of water against the wall or on the floor, with violence enough to smash it to pieces. The poor animal had not been able to swallow a drop of water for over thirty-six hours.

(*To be continued.*)

Editorial.

ANTHRAX.

The inclusion of Anthrax in the list of maladies recognised in the Contagious Diseases (Animals) Act, is having a good result in making us acquainted, to some extent at least, with the prevalence of the affection and the mortality it occasions, as well as the parts of the country in which it is most seriously present. What more the Act may do is doubtful, for this is not like one of the diseases over which the ordinary sanitary measures, and especially the "stamping-out" process, can exercise much control. But though this be so, yet there is scarcely one of these maladies which has been more closely and successfully studied, from a pathological point of view, than Anthrax, and we are in possession of certain facts with regard to it which should enable us to meet some of the requirements which present themselves when asked to deal with an outbreak.

Beyond the sanitary aspect of the Anthrax question lies that of diagnosis; and here, again, there should be little doubt or hesitation. Apart from the symptoms, course, fatal termination, and morbid anatomy of the disease, which ought to be familiar to every practitioner, the microscope should lend its valuable aid; and even then, should there still be doubt, one or two inoculation experiments properly conducted according to the rules to be observed in such tests, should decide whether Anthrax be present or not. In Yorkshire there has been a destructive invasion of disease on a certain farm, chiefly attacking pigs and sheep, and there has been some discussion as to whether Anthrax or Swine Fever has been the cause of the mortality; some veterinary surgeons declaring for the one and some for the other.

It is true that, up to a comparatively recent period, the swine disease was supposed to be Anthrax in one of its multiform aspects, but the distinction between them is now so well established that there should not be any difficulty in recognising them; though it should not be forgotten that pigs are rather susceptible to Anthrax infection, either through the digestive organs or by inoculation. The rapidity with which death ensues in Anthrax ought almost alone to establish a distinction between it and Swine Fever, to say nothing of the other guide marks.

In dealing with this disease, as with others which are inoculable, the veterinary surgeon cannot be too careful in adopting precautions for his own safety. From time immemorial the great danger of infection has been known, and its results recorded. Therefore, in order to avoid such a serious risk, every care should be observed in handling sick animals or the carcases of dead ones, as well as anything obtained from them. Smearing the hands and arms with lard or carbolised oil, or better still, perhaps, wearing the ordinary india-rubber tissue

gloves used in the *post-mortem* rooms of infirmaries and hospitals, should not be neglected. The blood is a readily infecting medium; therefore contact of the human skin with it should be scrupulously avoided.

CONTAGIOUS PLEURO-PNEUMONIA IN CATTLE.

BY PROFESSOR MC CALL, F.R.C.V.S., VETERINARY COLLEGE, GLASGOW.

(*Continued from page* 263.)

The series of changes which I have referred to as taking place in the locally inoculated part, do not commence to exhibit themselves till about the tenth day, so that it cannot be assumed that they are the results of the injection of mere morbid matter, but that they are *the effect of the ingestion of a specific virus.* Morbid matter, as a rule, acts almost immediately on its introduction to the body. Specific viruses have all a period of latency. The virus introduced by inhalation to the lungs has a period there of latency averaging six weeks. The virus introduced by inoculation to other portions of the body—say the tail—has a period *there* of latency, averaging ten days. It is therefore manifestly misleading and incorrect to say that when we inoculate we do not produce "Pleuro"—that is, the specific lung affection of cattle; we do; but in such a modified form, that the lung lesion cannot be recognised; for if the lung-cells and lymph-streams had not been traversed and impressed by the virus contained in the amber-coloured exudate, how could they resist the disease when they were again subjected to the action of the contagium by inhalation? Not only so, but by inoculating with the exudate formed after the tenth day in the tail, we produce the same results as with the exudate taken from the lungs. We are, therefore, I hold, shut up to the declaration, that by inoculating with the amber-coloured exudate of the lung we produce in the inoculated animal the *genuine* so-called *Pleuro-pneumonia*, or Lung Plague. Now if that were all, we have gained no advantage, but experience has proven beyond doubt that by thus treating the virus of Pleuro, *we rob it of its power to infect*—that is to say, that the animal so inoculated is not only proof to the invasion of the malady thereafter, but even when passing through the inoculated malady, and for all time coming, it gives off no contagium, so that there is apparently no risk in allowing inoculated cattle to herd with sound stock. I think I *have stated as briefly as I could all that can be advanced in favour of inoculation*, and it amounts to this, that an animal free of any lung affection at the time of inoculation, if inoculated with pure or genuine lung plague virus, contracts the disease in such a mild form that it is seldom deadly, that it is proof for an indefinite period to a second attack by the natural method, and that it never propagates the disease or contagium to others.

To explain how the virus inhaled always produces a highly contagious lung affection, and when inoculated never does, is, I think, one of those things "no fellar" can clearly comprehend. But it is most important, for innumerable cases can be cited to prove that cattle which had contracted Pleuro by the natural method and apparently made a perfect recovery, have months and years afterwards given off from their lungs the contagium, and thus anew have infected stock. The fact is also equally well known, that inoculated cattle have again and again been the carriers of infection to sound stock, long after they had apparently been successfully inoculated.

The microbes in the lung tissues find oxygen to breathe and food for their nourishment, hence they grow there and breed and excrete. Their excretions and their own bodily presence irritate the parts, and finally establish inflammation thereof, as witness the proliferation of connective tissue, and consolidation or hepatization of lung texture. With every breath, microbes innumerable escape from the lungs, but unless they gain entrance into the lungs of the same race of animals, viz., cattle, they die. The excretions of the microbes by absorption pass into the general circulation, permeate every texture, and so impress the cells of which they are formed, that they resist the after application of the virus through whatever channel it may enter the body; so that I am convinced, notwithstanding what has been related to the contrary, that a cow that has once contracted Pleuro-pneumonia by the natural method never has a second attack; and if a perfect recovery has followed, that is to say, if no portion of the lung tissue has become encapsuled, that animal will never give the disease to another.

Now, let us try and explain what are the series of changes which ensue when we inoculate the virus on the tail of a *sound* cow. In ten days, less or more, at the seat of inoculation in the tail tissue, an exudate is found rich in microbes, and in other respects just as was found in lung tissue; but, and in consequence of the microbes being fixed in tissue, through which almost no air passes (as compared with the large volume passing in and leaving the lung tissue), the poison is no longer aerial, but fixed, and although this exudate and its contained microbes, by inoculation, will produce the disease in a non-contagious form in a sound cow, it cannot produce the disease by the natural method, that is, by atmospheric dispersion.

The microbes introduced by inoculation into the tail tissue do not gain the lungs, and only live and procreate for a short time—long enough, however, for their excretions to penetrate the lymph and blood streams, and to set up the protective action to which reference has been made. If from the tail the microbes could reach the lungs, then undoubtedly they would breed, and inoculated lung plague would be a contagious disease; but it is not so, and notwithstanding what has been stated to the contrary, an inoculated cow out of her own body cannot at any time spread the disease by infection, and only by inoculation from the tail, and that for a short time after the tenth day.

If, however, during the course of the malady when contracted by the *natural method or by inhalation of the virus, a portion of lung tissue becomes encapsuled* (there is a decided proneness to this), although that animal, to all appearance, has made a complete recovery, and has been allowed to mix with sound animals for weeks and months with apparent impunity to those around it, still, whenever the time comes (it is very apt to come after a parturition) that the air penetrates the capsule, and the tissues liquefy, the imprisoned microbes will escape in the breath, and thus that animal, although recovered from the disease, and not now labouring under the specific disease, still has become anew a source of infection. Unfortunately, the same holds equally good with the inoculated animal, if it should have contracted the seeds of the disease by the natural method, prior to or at the time of its inoculation; *and as inoculation is scarcely ever practised until the disease has declared itself present in a member of the herd by the natural method*, and consequently must have been present there for some weeks, *the chances are that several animals are affected in every herd before inoculation has been had recourse to.* Therein lies the danger, and no doubt is the reason that inoculated animals have been so frequently known to propagate Pleuro among sound animals. No doubt, if great care be exercised in selecting the subjects for inoculation, and if none but non-infected animals be inoculated, the contagium cannot be spread by them; but he is a bold man who would declare that, after he had exercised all

his skill, he could not be mistaken, and that he had not inoculated any animal that had contracted the disease by the natural method. The man is not born who can discriminate with accuracy in this matter, and I repeat, therein lies the, I might almost say, sole objection to the practice of inoculation for the eradication of Pleuro-pneumonia; and it is an objection which will never be got over, because it is but a limited extent of the chest of the cow which is open to percussion and auscultation.

In continental countries, as you know, inoculation has been had recourse to on an extended scale, and I now purpose placing before you a brief record of the results; and for this information I am largely indebted to Professor Duguid and Dr. D. S. Salmon. As early as 1820, it would appear that inoculation for Pleuro-pneumonia was attempted by Kersman and Hausmann, at the Veterinary School of Hanover; it was also tried by others, but not on a scale sufficient for any practical conclusions to be deduced.

Dr. Willems, of Hasselt, Belgium, is now credited with originating and introducing the operation.

His first experiments were conducted in 1850, and his results, which were communicated to the Belgian Minister of the Interior, were published in the *Recueil de Médecine Vétérinaire* in 1852.

Dr. Willems' conclusions were, that Pleuro-pneumonia is not contagious by inoculation of the blood, or other matters taken from diseased animals and placed on healthy ones. That the blood and the serous and frothy liquid squeezed from the lungs of a diseased animal in the first stage of the disease are the most suitable matter for inoculation.

The inoculation of the virus takes from ten days to a month before it manifests itself by symptoms. The matter employed for the inoculation has in general no effect upon an animal previously inoculated or having had the disease.

By inoculating Pleuro-pneumonia, a new disease is produced; the affection of the lungs, with all its peculiar characters, is localised in some parts of the exterior, but whether it occasions apparent morbid manifestations or not, the inoculated animal is preserved from Pleuro-pneumonia.

The virus is of a specific nature; it does not always act as a virus; the bovine race alone is affected by its inoculation, since other animals of different races, inoculated in the same way, and with the same liquid, experience no ill effects.

A commission appointed by the Belgian Government reported the following summary of conclusions in 1853:—That inoculation with liquid extracted from a hepatised lung, the result of Exudative Pleuro-pneumonia, is not a certain preservative against the malady; that the phenomena succeeding inoculation may be produced several times in the same animal, which may or may not have been attacked with Exudative Pleuro-pneumonia; that the two affections (natural Pleuro-pneumonia and inoculated Pleuro-pneumonia) may exist together in the same individual, and that considerable derangements are manifested in the inoculated part, while the morbid action in the lungs progresses towards a fatal termination.

As to ascertaining whether inoculation really possesses a preservative power, and if so, in what proportion, and for what length of time it imparts immunity to the animals subjected to it, these are questions which can only be solved by further experiments.

In the following year, 1854, the question of inoculation was submitted to the Belgian Chamber of Representatives, and they refused either to compensate Dr. Willems or recognise the utility of his discovery, and the Minister of the Interior stated that the conclusion arrived at by the Com-

mission specially appointed to investigate the question was, that if inoculation did appear in certain cases to have produced immunity, in others it had been altogether incapable of preventing the development of Exudative Pleuro-pneumonia; that these contrasts—and they were not a few—had been observed as much in foreign countries as in Belgium, and that there were not sufficient facts at that time to convince the Commission that inoculation gives security to cattle against Pleuro-pneumonia, either in an absolute, or even temporary manner.

In the Belgian Official Report for 1881, Dr. Wehenkel, the chief veterinarian, says, with reference to the suppression of Pleuro-pneumonia, with Leblanc, Zundel, Lydtin, Roloff, Müller, of Berlin, and many others, "We think that it is in a proper application of sanitary measures in the slaughtering of sick animals, and a vigorous quarantine (if not the sacrifice of the suspected animals), that we ought, even at present, to seek the true means of freeing ourselves from this disease. The good results obtained in other countries assure us of the efficacy of such measures. The means that we recommend would cost, perhaps, for the moment, somewhat dear, but all well considered, we are convinced *the system now in use is still more costly*."

He further says "We cannot refrain from bringing out the singular fact that this year again the localities which have furnished the most victims to Pleuro-pneumonia, are found among those where the veterinarians or the principal owners of bovine animals are partisans of inoculation.

"Among these we would specially mention the localities of Hasselt, Anvers, and Hal. In the two departments of the Hasselt the greater part of the distillers are (we are told) partisans of Willems' inoculation, and these two localities furnished more than 300 of the 355 animals affected with the disease in Limburg."

The result of the struggle with Pleuro-pneumonia in Belgium is seen by the following table, which gives the number of cases annually for sixteen years; and it will be observed that there has been no progress made towards extirpating the disease; that in the year 1878 there were twice as many cases as in 1868, and that for the last five years of the series the losses were more severe than for the first five.

Years.	Cases.	Years.	Cases.
1867	1,481	1875	2,739
1868	1,384	1876	2,474
1869	1,502	1877	2,659
1870	2,146	1878	2,800
1871	1,571	1879	2,030
1872	1,541	1880	1,718
1873	2,271	1881	1,676
1874	2,046	1882	1,781

Total cattle population of Belgium in 1881 was 1,382,815.

France.

At the time Dr. Willems' communication was published, the French scientific Commission appointed to investigate Pleuro-pneumonia was in existence, and immediately took up the question of inoculation.

The Commission concluded that the *operation ought to be encouraged*, and that there were hopes of its becoming profitable to agriculture, after it had been perfected in its application by a more complete study. To arrive at this conclusion the Commission considered not only *its own* experiments, but also those which had been undertaken in Holland, Belgium, and in the Departments of the North and of Pas-de-Calais in France.

Judged by the experiments of the French Commission alone, the operation had nothing to commend it; six animals out of fifty-four died from the operation, while of forty-six uninoculated animals exposed to the contagium only four died. In fact, the deaths from the operation were greater than from the disease which was to be prevented by the operation. Now, knowing that this was the case, it is evident that the opinion of the French Commission must have been based rather upon what they heard of the results in Belgium, Holland, and Italy, than upon their own experiments.

France is one of the few countries in which inoculation of infected herds is compulsory. The statistics with regard to the results are not by any means complete, but several veterinarians have published their records.

M. Hero reports results of 360 inoculations from 1860 to 1881; of the animals inoculated, thirteen afterwards died of Pleuro-pneumonia, and fifteen others contracted the malady and recovered.

M. Verrier, of Provins, reported that in 1881, of 199 cattle inoculated, 116 took the disease and required to be slaughtered, and only eighty-three resisted it.

M. Savary states that Pleuro-pneumonia appeared in the stables of M. Giot among ninety-seven fattening animals. All were inoculated, but all, without exception, sickened, one after the other, and it was necessary to slaughter them. With another farmer the disease appeared in July, and in spite of inoculation and reinoculation, it continued until 4th October, when the last ox sickened and was killed.

M. Cagny gives the following statistics of inoculation for 1881 and 1882:—Of 503 animals inoculated in the Departments of Senlis, Clermont, and Beauvais, three died from the results of the operation, and thirty-seven became affected with Pleuro-pneumonia afterwards.

M. Leblanc gives the statistics of inoculation in the Department of the Seine, as follows:—Number of cattle inoculated, 528; number lost after inoculation, 129.

Leblanc reported to the Societe Centrale de Médicine Vétérinaire, that a breeder, an advocate of inoculation, and who had every fresh cow entering his stables operated on at once, had for five years *cases of Pleuro-pneumonia continually appearing among his stock*. Leblanc further states that he saw a case of Pleuro-pneumonia in a slaughter-house, which had come from this same stable on May 16th, 1882. On the 18th he had fifty cows inoculated that were in the stable; forty-two had been operated on before, among the rest a Dutch cow; on February 3rd, 1883, this cow showed symptoms of Pleuro-pneumonia. A *post-mortem* examination on the following day showed in the lower part of the right lung *an old lesion of Pleuro-pneumonia*, and in the upper part a *new lesion* only a few days old. This cow had had two attacks of Pleuro-pneumonia, and had been inoculated twice within a year.

The statistics of the Department of Seine-et-Marne for 1881, as given by M. Verrier, were: inoculated, 209; sickened after inoculation and were slaughtered, 120.

M. Mollereau gives particulars of his inoculations near Paris, from June, 1883, to September, 1884, as follows: Inoculated, 322; died from the operation,

one; slaughtered because affected with Pleuro-pneumonia, first week after inoculation, thirteen; second week, nine; third week, three; fourth week, four; later than four weeks, three. Making a total of thirty-two, or ten per cent.

Prussia.

In 1852 Dr. Ulrich was commissioned by the Prussian Government to go to Cologne and into Belgium and make observations on the spot of the Pleuro-pneumonia inoculations, and he reported, among others, the following conclusions:—

It is an established fact that in many stables wherein Pleuro-pneumonia had raged for several years, as well as others which had only been affected by it of late, the disease disappeared shortly after inoculation. That, on the other hand, cases have occurred in which the disease has continued to rage after and in spite of inoculation. In many cases of beasts afterwards dying of the disease, inoculation has not proved successful. At the same time there exist examples to the contrary; animals with which inoculation has quite succeeded, and yet for all that they have become afterwards the subject of the disease. The different results did not allow Dr. Ulrich to pronounce definitely on the value of inoculation.

In the sixth Prussian Report, 1881-2, it is stated that 113 head of cattle were inoculated in Nanlin and 147 in Meagow. In both herds the usual inoculation reaction was observed; nevertheless, between 13th February and 22nd April, there became sick, of those in Nanlin 66, and of those in Meagow 41, and with such severity that they had to be slaughtered; that is, of 260 cattle inoculated, 107 afterwards contracted a severe form of Pleuro-pneumonia.

In the ninth Prussian Report we are told that during the year from 1st April, 1884, to 31st March, 1885, 22 head of cattle took sick in Merseburg which had been successfully inoculated in April or September, 1883.

In Saxony, which has been the chief centre of the disease in Prussia during 1883, 471 exposed animals were inoculated, and of these 52 afterwards contracted the disease.

In 1882, according to the *Veterinarian*, inoculation was practised on a herd of 67, of which 3 were diseased, 52 remained well, and 11 became sick.

Australia.

No correct statistics available, only extravagant statements by those in favour of the operation; but in spite of the inoculation for years past of large numbers of cattle, the disease still prevails there, more particularly in the districts where it has been most practised.

Holland.

This is the only country which has in *recent times* got rid of Pleuro-pneumonia when once it was fairly established.

A Dutch Commission, appointed in 1852, reported that, "Although the present trials prove in a remarkable degree that inoculation possesses the power at least temporarily to prevent infection, it remains uncertain how far the disposition for the disease is completely or only for a time destroyed. The practice of inoculation was carried out extensively in Holland, but it did not reduce the amount of disease, and in 1871, when the slaughter of all cattle affected with Pleuro-pneumonia was made compulsory, there were 6,079 cases of the disease in Holland.

The following table shows the prevalence of the disease:—

Year.		Cases.
1871	Only diseased cattle slaughtered	6,079
1872	" " "	4,009
1873	" " "	2,479
1874	Slaughter of diseased continued, with compulsory inoculation of all suspected cattle	2,414
1875		2,227
1876		1,723
1877	Slaughter of the whole herds commenced in most infected districts	951
1878		698
1879		157
1880		48
1881		279
1882	Detected in lungs after death	62
1883	17 " " "	200
1884	139 " " "	250
1885	16 " " "	28

In Holland Pleuro-pneumonia has now been exterminated, for they have had no case reported either in the living animal, or discovered after death, since May, 1885. The above table also shows that inoculation of the affected did not succeed in materially reducing the amount of disease, but so soon as *the slaughter of whole herds* was commenced, then the amount of disease was quickly reduced and finally got rid of in nine years.

Total cattle in Holland in 1884, 1,474,412.

AMERICA.

Dr. Salmon, in his report to the American Government for 1885, states: From a careful study of the whole subject of inoculation for Pleuro-pneumonia, we conclude—

(1) That this practice does not greatly lessen the losses which occur from Lung Plague infection.

(2) That it is powerless to extirpate Pleuro-pneumonia from any country.

(3) That it can only be practised with safety to the community when the inoculated herds are kept under careful supervision, and where inoculated animals can only leave the infected premises to go to slaughter.

(4) That there is no good reason for practising inoculation, and that it should be prohibited by law except where the conditions just mentioned are rigidly enforced.

I intended to have placed before you the results of Mr. Rutherford's inoculations in Edinburgh and elsewhere during the past ten years; but he has not been able to lay his hands upon the documents; however, from what I know, I am certain that his operations would have contrasted very favourably with the results I have just read. Indeed, I cannot refrain from saying, that if careful selection of animals had been practised, and pure lymph alone had been used for inoculation purposes, such a formidable array of lamentable results could never have been placed upon record.

Now, gentlemen, to conclude, it appears to me that there is *only one infallible method* known to us at present *for eradicating Pleuro-pneumonia* in this country, and that is the slaughtering of all cattle in infected herds; and just as in Cattle Plague so in Pleuro-pneumonia, so soon as the last

infected animal has been put down, we will know nothing of the malady until it is reimported. The present method of slaughtering all infected animals, and in fifty-six days thereafter allowing the remainder of the herd to pass on as sound, will never eradicate the disease, *neither will slaughter of all affected and suspected cattle, and the inoculation of the remainder of the herd, prove effective*, because, in both cases, animals with the seeds of the disease in their lungs will escape, and sooner or later propagate the disease wherever they go. To slaughter whole herds wherever the disease appears will be an expensive measure, and it is certainly a revolting one; but unless it is done, I go in for an extensive measure of inoculation by way of prevention. We vaccinate the human family to prevent the extension of Small-pox, and with the best results. Adopt the same measure in dealing with the Lung Plague, and I should hope that in time we would stamp out the infection. If the Government are not prepared to take this step, or to slaughter all affected herds, and grant compensation out of the Imperial Exchequer, then the stock proprietors of this country must just make up their minds to have the "Lung Plague" always more or less present in their herds. If we are resolved to have the disease always with us, then I would suggest as the most humane and least expensive method of dealing with it, that we slaughter all suspected and affected animals, and inoculate the remainder of the herd. I cannot admit that inoculation has had a fair trial at the hands of the bulk of the individuals who have practised it. The results are so contradictory, that it is apparent to any one who will give the necessary time to its study, that genuine lymph has not been used, and that other conditions so much insisted on, and so ably demonstrated in the results of Mr. Rutherford's practice, have not been complied with.

Contagious Pleuro-pneumonia from 1854 to 1866.

Table showing the average number of cows kept in Glasgow for twelve years from 1854 to 1866, the deaths from Pleuro-pneumonia, the pecuniary loss, etc.

Number of Dairymen.	Average Period in Business.	Average Number of Cows.	Died and Buried.	Slaughtered on Account of.	Realised from Sale of Carcases.	Actual and Direct Loss.
224	12	1,527	3,759	1,594	£5,929	£54,677

Average annual loss, £4,556 8s. 4d.

Table showing the total number of cattle that have been attacked, killed, and recovered from Pleuro-pneumonia, from the passing of the Contagious Diseases (Animals) Act in August, 1869, till 31st December, 1872, etc. (three years and four months).

Average Number of Cows.	Outbreaks.	Cattle on Premises.	Attacked.	Killed.	Died.	Recovered.	Computed Value of Cattle Killed.	Computed Value of Cattle Recovered.	Computed Actual and Direct Loss.	Computed Annual Loss.
1800	32	480	258	139	28	91	£521 5s.	£341 5s.	£2,169	£650 14s

Average annual loss, £650 14s.

PLEURO-PNEUMONIA.

Table showing number of fresh outbreaks in Glasgow, number of cattle slaughtered, and compensation paid by the Local Authority of Glasgow from August, 1873, till January, 1887.

Year.	Out-breaks.	Cattle Slaughtered.	Rate.	Amount of Compensation Paid Owners.
Aug., 1873, to Aug., 1874	20	203	One-half	£1,011 10 6
„ 1874, „ 1875	8	70	„	502 16 9
„ 1875, „ 1876	3	73	Three-fourths	676 12 1
„ 1876, „ 1877	14	111	„	712 15 0
„ 1877, „ 1878	5	34	„	294 15 0
„ 1878, „ 1879	6	54	„	481 0 0
„ 1879, „ 1880	2	39	„	381 0 0
„ 1880, „ 1881	—	—	—	—
„ 1881, „ 1882	—	—	—	—
„ 1882, „ 1883	—	—	—	—
„ 1883, „ 1884	1	15	Three-fourths	168 7 6
„ 1884, „ 1885	7	96	„	1,154 15 0
„ 1885, „ 1886	1	19	„	219 0 0
„ 1886, to Jan., 1887	1	14	„	200 0 0
	68	728		£5,802 11 10

Average annual loss, £450.

The following table of the results of inoculation was collected by Reynal some years ago. The original table was larger than this one, but all those cases where no history of the herd after inoculation was obtained have been left out.

Country.	Number Inoculated.	Number Successful.	Loss of Tail.	Gangrene Swellings.	Died from Inoculation.	Contracted Pleuro-pneumonia
Belgium	9,163	7,263	682	22	237	540
France	2,181	1,658	524	10	79	78
Holland	8,643	6,024	229	2	73	1,012
England .. .. / Germany .. .. / Austria .. .. / Italy	2,861	1,567	147	19	101	594
	22,848	16,512	1,582	53	490	2,224

Number of fresh outbreaks, and also the number of cattle attacked in the County of Edinburgh, including the Burghs of Edinburgh, Leith, Musselburgh, and Portobello, as compared with Lanarkshire, including Airdrie, Glasgow, Hamilton, Lanark, and Rutherglen.

Year.	Edinburgh.		Lanarkshire.	
	Fresh Outbreaks.	Cattle Attacked.	Fresh Outbreaks.	Cattle Attacked.
1878	87	318	26	255
1879	15	185	14	121
1880	6	15	9	100
1881	8	18	2	7
1882	22	42	4	11
1883	16	47	1	1
1884	24	76	6	77
1885	15	60	19	230
*1886	58	227	7	72
	251	988	88	874

Table showing number of fresh outbreaks in the County of Lanark, and number of animals slaughtered from 1878 to 1885 inclusive.

Year.	Number of Outbreaks.	Number of Animals Slaughtered.
1878	9	196
1879	6	81
1880	7	54
1881	1	6
1882	4	11
1883	0	0
1884	1	18
1885	13	194
		8)560
		70 animals being the average annual slaughter.

VETERINARY SCIENCE.—A SKETCH.

BY GEORGE FLEMING, LL.D., F.R.C.V.S., PRINCIPAL VETERINARY SURGEON OF THE ARMY.

(*Continued from page* 253.)

Coleman was now the only professor, and though for some time he had to contend with lack of special knowledge, yet, according to his friend, Sir Astley Cooper, by his scientific researches and mental energies, in a few years the Veterinary College attained a degree of usefulness and celebrity which exceeded his most sanguine expectations. Under his fostering auspices the progress of the veterinary art was such as to qualify its practitioners to hold commissions in the army; and he had himself the honour to be appointed Veterinary Surgeon-General to the British Cavalry, the duties of which post he performed with the most laudable fidelity, and with such advantage to his country that the number of lives of horses saved by his means was immense. His scientific views and high character made him

* These figures for 1886 are subject to correction, but are quite near enough for all practical purposes.

thought worthy of being elected a Fellow of the Royal Society, and of several other scientific associations.

The institution was patronised by George the Third, and in dedicating his first and classical work on the "Foot of the Horse," Coleman speaks of the College as "an institution which your Majesty has condescended to patronise with so much goodness and so great effect." He also adds: "By conferring on the veterinary surgeons employed in the cavalry the rank of commissioned officer, your Majesty has done more to promote the veterinary art than otherwise could have been effected in centuries. This single act has not only raised the art from contempt to respectability, but already induced many medical students of liberal education to devote their services to its improvement. . . . . Your Majesty's distinguished attention to the progress and cultivation of knowledge in general, has in no one instance been more happily employed than the present, since the noblest and most valuable arts are those which embrace the widest sphere of benevolence: utility to mankind, mercy and relief to the brute creation." The pecuniary embarrassments which marked the early days of the school would undoubtedly soon have led to its bankruptcy, had Government not been induced to come to its relief by a small annual grant, which was continued for some years, until it had obtained a stronger position in the country; and it is possible that this concession to its urgent needs was due to the recognition of the benefits it had already conferred on the army. This may be inferred from what Coleman says in his introduction to the work just mentioned: "The public have already derived some advantage from the veterinary college, in return for the liberal grants that have been made by Parliament. Most of the regiments of regular cavalry in England have been supplied with veterinary surgeons; and I believe that there is no regiment in his Majesty's service which has had an opportunity of seeing the veterinary practice, opposed to the former system, that would not feel a pleasure in bearing testimony to the advantages which Government has already derived from their appointment."

Owing to the lack of funds, the teaching at the College must have been very meagre, and had it not been for the liberality of several medical men in throwing open the doors of their theatres to its pupils for instruction without fee or reward, their professional knowledge would have been sadly lacking in the elements of medical education. These gentlemen deserve mention, as without their generous aid this budding branch of medical science must in this country have developed slowly and feebly. Their names are well known in the history of English medicine and surgery. Dr. Fordyce instructed in materia medica, chemistry, and the practice of physic; while lectures on *human* anatomy and physiology, and on the principles and practice of surgery, were given by Dr. Baillie, Messrs. Cruickshank, Home (brother-in-law of John Hunter), Cooper (afterwards Sir Astley), and Wilson. The celebrated John Hunter, as already mentioned, was one of the first and warmest friends to the institution, he having seen its importance as a field in which to cultivate his favourite pursuit, comparative anatomy, and therefore worthy of his ready assistance, both professional and pecuniary; and Cline is gratefully acknowledged to have done his best to make it a success, by the help he rendered to its professors.

The Board of Examiners, also, was for many years chiefly composed of eminent members of the medical profession. Of this we have evidence in Lady Bell's recollections of her husband—Sir Charles Bell, the great physiologist. Writing of his numerous engagements, she observes: "From the meetings of the Examiners of the Veterinary College he would bring away witty sayings of Dr. Babington; and Charles was tempted, as he listened, by pencils before him, to make drawings, that were carried off by his friends. Sir Astley Cooper framed several. He enjoyed these meetings,

along with Dr. Bright, Mr. Brodie (afterwards Sir Benjamin), and other good men; and, there, from Professor Coleman, he got much knowledge about horses, that he wove into the 'Hand'—a remarkable book on the human hand, forming one of the Bridgewater treatises."

Coleman died in 1839, and with him disappeared much of the interest the medical profession of London took in the progress of veterinary medicine. This is much to be deplored, as those can testify who understand the intimate relationship existing between animal and human pathology: how closely the health of man may depend upon the health of the creatures he has domesticated, and derives subsistence from, and how much more advantageously morbid processes can be studied in animals than in our own species.

From the earliest period in medical history, this undoubted fact has been recognised at different times by the greatest authorities on medicine; and yet it may be confidently asserted that in this country it has been unaccountably ignored, or strangely overlooked. A distinguished medical writer lately observed: "That men should confine themselves to curing what they please to call the 'lower animals' to the exclusion of mankind, and the reverse, I cannot and have never been able to understand; and hope the day will soon come when he who medically treats mankind may be looked upon as a dangerous specialist, if he has not attained his position by a comprehensive study of the diseases of the 'lower animals.' That the sister profession of 'human' medicine should recognise the advantage of a knowledge of comparative anatomy and physiology, and overlook the vast and unspeakable advantage of knowledge of comparative pathology, is really inconceivable." And Dr. Bell Pettigrew, no mean authority, in a letter published a few years ago, asserted that "no one can intelligently administer medicine to a human patient who is ignorant of the effects produced by it on the lower animals. A perfectly educated physician should also be master of the veterinary art." Strange to say, there is not a chair of comparative pathology in any of our Universities, nor a lectureship on this subject in any of the medical schools, though comparative anatomy—an insignificant item of medical knowledge, is taught in all, or nearly all of them. This extraordinary omission in medical teaching has doubtless injured or retarded the advancement of medical and sanitary knowledge; and the invasion of the Cattle-plague, in 1865, demonstrated how seriously it operated in delaying recourse to the only measure which can extinguish that pest—a measure insisted upon by all veterinary authorities, since its efficacy was first demonstrated to the world by Lancisi, physician to Pope Clement XI., in 1713.

The advantages which human medicine must derive from careful observation and investigation of the diseases of animals, must have been obvious to those distinguished physicians and surgeons who lent their aid and countenance in establishing the first veterinary school in Britain, who were instrumental in placing an able colleague at the head of it, and who encouraged him in the discharge of the arduous duties which the position entailed. But with the demise of Coleman, the connection between human and veterinary medicine may be said to have ceased, so far at least as the representatives of the former are concerned.

The school seemed to have lost its claim to recognition as anything more than an establishment for instructing students in the diseases of the horse, and, to a less extent, those of cattle, sheep, and dogs. There was scarcely a member of the medical profession connected with it, or interested in it; and it must be confessed that for very many years it has done little to advance or attract attention to comparative pathology, or to make its importance evident. So that with the disappearance of John Hunter and Professor Coleman, the divorce between human and comparative pathology appeared to be nearly, if not quite, complete in this country. Now and again, individuals,

moved by enthusiasm in the cause of unity of medicine, and cognisant of the good that must accrue from practical perception of this truth, have exerted themselves to the utmost to demonstrate the correlation existing between what are now generally considered as two perfectly distinct divisions of the healing art; but for all this, those who have had most experience have often been heard declaring that medical men are, as a rule, lamentably ignorant of the diseases of animals; and some have even had the temerity to assert that, from the very nature of his studies, a well-trained veterinarian is far better acquainted with human disorders than the physician is with those of the inferior creatures.

It is probable that in the course of time this unfavourable condition of affairs in medicine will be changed for the better, and that in our medical schools and universities we shall find comparative pathology holding a prominent place in the curriculum, supplanting one or more of those abstruse subjects which the student ought to acquire before he enters on his professional studies. It ought to be noted, in speaking on this point, that Sir Thomas Acland, K.C.B., Regius Professor of Medicine at Oxford, has done his utmost to induce the University authorities to establish a chair of comparative pathology there, but without avail. And it may also be mentioned that, on the Continent, such chairs are now almost looked upon as an indispensable feature of every university. In that of Brussels, Professor Wehenkel, of the Veterinary School, lectures on the subject; at the Munich University, the well-known veterinarian, Bollinger, teaches; at the Leipsic University, another member of the veterinary profession, Zürn, holds the comparative pathology chair; the same chair at the Bologna University was occupied until his death, by the very learned veterinary surgeon, Count Ercolani; Röll, of the Veterinary Institute of Vienna, has established a lasting reputation as a comparative pathologist of the University of that city; until the other day the lamented Rawitsch was the exponent of Veterinary Science in the University of St. Petersburg; Pütz is installed at the University of Halle, Pflug at that of Giessen; Roloff, director of the Berlin Veterinary School, at whose funeral a few months ago, Virchow pronounced an eloquent oration, also lectured on comparative pathology. Indeed, there is scarcely a university in Europe which does not recognise the necessity for cultivating and teaching this branch of medical knowledge. And we must not forget the installation of perhaps the most distinguished and accomplished of all modern veterinarians, the lately-deceased M. Bouley, in the chair of comparative pathology created by the French Parliament in the Paris Museum of Natural History in 1880, in the place of that of physiology, left vacant by the death of Claude Bernard towards the end of the previous year. The two volumes of lectures delivered there by Bouley (*Leçons de Pathologie Comparée; Le Progrès en Médecine par l'Experimentation*), testify as much to the brilliancy and erudition of the lecturer, as they do to the abiding interest and value inherent in the subjects treated, no less than to the wisdom of the Government in substituting one branch of science for the other—a new branch certainly, but one represented by as eminent a teacher in that line as Bernard was in physiology, according to the *discours* delivered at Bouley's tomb by Milne-Edwards. Bouley has been succeeded at the museum by a well-known teacher of Veterinary Science, M. Chauveau, whose discoveries in pathology are, we opine, second only to Pasteur's.

But if we look back towards the middle of last century, we find that Bourgelat had a just conception of the great importance of Veterinary Science in this direction, and that he recognised that it had more points of contact with the circle that encompasses the material interests of man than human medicine can claim. In speaking of the veterinary schools he had been

instrumental in forming, and alluding to their special functions, he maintained that they should conduce to the progress of science in general; in fact, he urged "leurs portes soient sans cesse ouvertes à ceux qui, chargés par l'Etat de la conservation des hommes, auront acquis par le nom qu'ils se seront fait, le droit d'interroger la nature, chercher des analogies, et verifier des idées dont la conformation ne peut être qu'utile à l'espece humaine." And the benefits to be mutually derived from this association of the two branches of medicine inspired the active mind of Vicq d'Azyr to elaborate his *Nouveau plan de la Constitution de la Médecine en France*, which he presented to the National Assembly in 1790, in the name of the Société Royale de Médecine. The fundamental idea of this plan was to make veterinary teaching a preliminary *(le premier degré)* and, as it were, the principle of instruction in human medicine. His proposal went so far as to insist upon a veterinary school being annexed to every medical college established in France. This idea of Vicq d'Azyr was reproduced in the *Rapport sur l'Instruction Publique* which Talleyrand de Perigord read, in the name of the "*Comite de Constitution*," before the National Assembly in 1790. In this project, veterinary teaching was to form part of the "Institut national des lettres, des sciences, et des arts," to be given at Paris.

The idea was an excellent one, and was, in fact, based on logical principles, of which experience has demonstrated the advantages. It was, in reality, to initiate students of medicine into a knowledge of diseases, by observing those of animals, in which every symptom is presented in all its signification, and without being modified by any of those influences due to the "impressionability" of the patients, to their hopes, fears, or dissimulation. The suffering animal appears exactly as it is and feels, without the intervention of mind obscuring the symptomatology, the symptoms being really and truly the rigorous expression of its diseased condition. From this point of view, the dumb animal, when ill, offers the same difficulties in diagnosis as does the ailing infant or the comatose adult; and therefore it must be an excellent method of training for the medical student, to accustom him, in observing sick animals, to ascertain the always exact relations existing between "symptomatic expression" and the abnormal condition from which this proceeds. The mutism of the lower creatures, in bringing into play the sagacity of the observer, compels him to exercise a sort of divination, which must be beneficial to his reasoning powers. As has been well said, each animal patient is a sphinx which offers its enigma, and this can only be solved by the correct interpretation of the symptoms it exhibits. Therefore, there can be no better preparative for the study of human diseases, and especially those of young children, persons devoid of their reason (who are unable to describe their sensations, or who malinger), than veterinary clinical studies. The same may be said of the observation of diseases and disease-processes in animals. In tracing these, and comparing them with the same or allied conditions in mankind, a flood of light is thrown upon them, rendering clear what, without this comparison, would be obscure or unaccountable. And even in animal surgery there is much to instruct and interest the surgeon who ministers to our own species.

Doubtless, when another John Hunter appears, there will be a revival and permanent establishment of the work that great man commenced in England nearly a century ago, and which was more or less suspended when he died, greatly to the detriment of veterinary science and human medicine.

Though the Royal Veterinary College ceased to have the same interest for medical men that it had in the days of John Hunter, and other celebrities in medicine, yet it was doing good work in a purely veterinary direction, and received such public financial support that it was soon able to dispense with the small annual grant given to it by Government, while it never at any time

lacked the patronage of some member of the Royal family, or the kind interest and exertions of noblemen and gentlemen, who saw the necessity for maintaining such an institution, and improving in every possible way veterinary education.

The reigning monarchs were its patrons from the commencement; and it is noteworthy, in connection with the great interest our beloved Queen has always taken in animals, and the regard she has for their welfare, that in 1838 she became patron of the school, and remains so. The notification of the bestowal of this gracious favour we find recorded in the minutes of the annual general meeting of the College, held on June 2nd, 1838, and alluded to as follows:—"A letter read from Sir Henry Wheatley, in answer to an application, stating 'That Her Majesty would be graciously pleased to afford the same patronage to the Royal Veterinary College which it had enjoyed during his late Majesty's reign.'" When the College was first styled "Royal" is uncertain, but it was probably during the Presidentship of the Duke of Kent, who died in 1820. The office of President was afterwards held by the Duke of York, by William the Fourth when Duke of Clarence, by the late Duke of Cambridge, and is now worthily filled by Field Marshal His Royal Highness the present Duke of Cambridge, who accepted the Presidentship on the death of his father in August, 1850.

It has been mentioned that Parliament for a few years, when such aid was greatly needed to keep the school in existence, granted a small sum annually; but towards 1820 this allowance ceased, and since that time the fees paid by students, legacies and donations, and other property of which it became possessed, together with the subscriptions of persons desirous of availing themselves of the advantages of the institution, have proved sufficient for its support. The privileges of subscribers, who pay an annual sum of two guineas, or a lump sum of twenty guineas (life subscribers), are very advantageous if they are horse-owners or possess other animals requiring veterinary attention, and should offer a strong inducement to these to contribute to such a valuable establishment, apart from the public claim it undoubtedly has upon all who are inspired by feelings of humanity towards animals and desire their protection from disease.

It has also been remarked that, in the early years of the existence of the institution, the horse was the only animal to which much attention was given; it was soon found, however, that the course of education should take a wider range, and embrace the most valuable of the domesticated creatures other than that most useful soliped. To carry out this object effectively, and to meet the views of the Royal Agricultural Society of England, which agreed to give a contribution of two hundred pounds per annum for the purpose, provided its subscribers were admitted to all the privileges of those subscribing to the College, an additional professor was appointed, whose duty it was to investigate and teach the treatment of the diseases of cattle, sheep, and other animals, to the students; while outbreaks of disease among these were to be inquired into by the officers of the College. This generous help to the College was continued by the Society until 1875, when it was unfortunately withdrawn, though the chair of cattle pathology was maintained, and is now occupied by Professor Brown, Veterinary Adviser of the Agricultural Department of the Privy Council. In 1886 the Society renewed the grant, on the urgent representations of the Governors of the College, who, in consequence of increased financial demands, were compelled to appeal to the public for additional support.

Notwithstanding the comparatively trifling support afforded by the country to this veterinary school, it yet has rendered great service to the empire in training probably between three and four thousand students, who have, on graduation, spread over the country, settled in our Colonies, and become successful prac-

titioners of veterinary medicine and surgery. Not only this, but it has been the parent of other schools in this country, one of which, the first in Scotland, was founded by Professor Dick, a student of Coleman's in 1817-18, and a man of great perseverance and ability. Commencing his much-needed school at Edinburgh in 1819-20, with only one student, but with a strong determination to make the private venture a success, in three years he had gained the patronage of the Highland and Agricultural Society of Scotland, which also placed a small sum of money at the disposal of a committee appointed by it to take charge of a department of veterinary surgery it had formed. This patronage, and very much in the way of material assistance and encouragement, was continued to the time of the professor's death in 1866. During the long period in which Professor Dick presided over his school, considerable progress was made in diffusing a sound knowledge of veterinary medicine in Scotland and beyond it, through his own efforts and those of the gentlemen he selected to form his teaching staff. Some of the latter were of his own training, while the others were lecturers in the University or in the extra-mural medical schools of Edinburgh. For many years his examining board, which gave certificates of proficiency under the auspices of the Highland and Agricultural Society, was composed of the most distinguished medical men in Scotland, Professors Goodsir, Syme, Lizars, Ballingall, Simpson, Knox being among those appointed to test the fitness of the students. Many of the latter have greatly distinguished themselves, five of them being principals of veterinary schools in this country and Canada, while from among them two have been selected to fill the responsible position of Principal Veterinary Surgeon of the Army. By his will, Professor Dick vested the college in the Lord Provost and Town Council of Edinburgh as trustees, and he so disposed of the somewhat considerable fortune he had made, as to insure that it would be maintained for the purposes for which it was founded. The college remains as a striking and useful memorial of what one man of great natural abilities, energy, and perseverance, is capable of accomplishing.

In recent years another veterinary school has been established in Edinburgh, and one in Glasgow, both of which have done, and are doing, good service.

The rapid development of Veterinary Science in the United Kingdom, and the professional interests involved, as well as the desire to improve and render uniform the education of graduates in the only way this can be successfully accomplished, incited the veterinary surgeons of fifty years ago to endeavour to obtain a Charter of Incorporation. In this they were successful, and in 1844 their petition was granted, and the Royal College of Veterinary Surgeons (a most unfortunate designation, being so like that of the Royal Veterinary College, as to often lead to confusion), was added to the learned corporations of this country. The functions of this body were, until a recent date, limited almost entirely to examining students taught in the veterinary schools, and bestowing diplomas of membership on those who successfully passed the ordeal imposed on them by the Boards which sat in London and Edinburgh. The examination for a long time was not particularly searching, the examiners being chiefly medical men, with two or three veterinary surgeons to represent the more special element in professional requirements; while, to correspond with the period of study—which altogether did not occupy more than two sessions of about six months each—there was only one examination for the diploma. Most unfortunately, soon after the obtainment of the Charter of Incorporation, a quarrel arose between the Royal College and Professor Dick, which resulted in the latter seceding altogether from the union which had been established, and forming an independent Examining Board of his own, the Highland and Agricultural Society granting certificates of proficiency to those students of his who were deemed competent. This

schism operated very injuriously on the progress of veterinary education and on professional advancement, retarding both to a serious extent; as the competition engendered was of a rather deteriorating nature, and little calculated to engender that sentiment of *ésprit* and harmony so necessary for developing scientific enthusiasm. After the death of Dick, the dualism in veterinary licensing was suppressed, the Highland Society ceasing to give certificates, and the one-portal system of admission to the profession was, and is now, administered by the Royal College, greatly to the advantage of veterinary medicine and the benefit of the public. Improvement in education then became possible, and the result is that the subjects taught have been increased in number, conformably with the requirements of ever extending science, the period of study has been enlarged so as to be nearly as long as that imposed upon medical students, the teaching is more thorough and practical, and the examinations more frequent and searching. Candidates for admission to the schools must also give evidence of having received a good general education. All this has effected a great change in the character of the profession, and the change is perhaps most conspicuous in the younger members, and must bear good fruit as time goes on.

Another result of the suppression of the dual system has been the obtainment of an Act of Parliament protecting the title of the graduates of the Royal College of Veterinary Surgeons, and conferring other advantages, not the least of which is the power granted the College to remove the names of unworthy members from its register. In some respects the Veterinary Surgeons Act is superior to the Medical Act, while it places the profession on the same level as other learned bodies, and prevents the public being imposed upon by empirics and impostors who, but for it, in assuming a title to which they have no right, might cause loss to owners of animals, and inflict torture on the latter. The College has also instituted a higher degree, that of Fellow, which can only be obtained after the graduate has been five years in practice, and by passing a severe examination. Fellows only can be members of council or members of the examining boards, and it is the prospect of securing this honourable distinction that will act as a stimulus to ambitious men to keep up, and add to, their knowledge, after leaving the teaching schools.

The graduates of the Royal College of Veterinary Surgeons who have been registered since the obtainment of the Charter in 1844, probably number 4,000, and the services these have rendered to this country, to our colonies and dependencies, as well as to other countries (as the United States) cannot be estimated. In our army, the benefits which have been derived from the presence of well-trained veterinary surgeons have been testified to by military authorities from the date of their admission as commissioned officers, in the early years of the century, up to the present time. In no army in Europe is there a smaller mortality among the animals employed, or less loss from contagious diseases; while the high efficiency of the horses is largely due to the zeal, intelligence, and natural aptitude of the veterinary officers for their special duties.

And in no other army are the veterinary officers so severely tested, physically and professionally; as more than one-half of their service is foreign—nearly always in unhealthy climates; and in India their skill has to be exercised on elephants, camels, bullocks, cattle, and sheep, in addition to horses. During war the strain on these officers is heavy, from the arduous nature of their duties, and they are in a somewhat anomalous position with regard to risks. While surgeons are protected in the field by the Red Cross, because of their humane vocation, and are considered as non-belligerents, veterinary officers, whose functions are no less humane, are regarded as combatants, and therefore incur the chances of capture, imprisonment, or death, at the hands of the enemy.

Every advance made in medicine affects the progress of Veterinary Science, and the recent remarkable discoveries, some of which have been initiated by members of the veterinary profession, or developed by them, have had a powerful effect on the medicine of animals, and will in the end create as great a revolution in veterinary practice as they will in the medicine of man. In "preventive medicine," if the term may be allowed, the benefits to be derived from the application of what has been designated the "germ theory," will be immense; as true notions of the causation of infectious and contagious diseases must lead eventually to their utter extinction.

It has been already intimated that the medicine of the lower animals differs from that of man in no particular so much, perhaps, as in those principles which may be termed "utilitarian." The life, or rather the vigour and sound condition, of the domesticated creatures has a money value, which greatly modifies considerations with regard to curative measures when they are ill or seriously injured, or when health and usefulness have been replaced by disease and inefficiency. The life of man, though it be robbed of nearly all its attractions and usefulness, is yet considered too sacred to have a mere pecuniary value. But that of the animals which we have domesticated, is in almost every case worthless, if, when they are attacked by disease or crippled by accident, the expense of veterinary treatment exceeds their market value, even though a thorough cure may be possible. When there are doubts as to complete restoration to health and soundness, then monetary considerations generally decide against the adoption of remedial measures.

This peculiar feature in the medicine of the domesticated animals brings even more prominently before us than in the case of man, the value of the old adage, that "prevention is better than cure." The veterinarian should not only be well skilled in all those branches of science of which medical knowledge is composed, and be able to minister to the numerous and varied ailments to which the several species of animals domesticated or tamed by man are exposed; but, above all, he should be thoroughly conversant with the history and nature of general diseases and their causes, particularly their mode of extension, as well as the best measures to be adopted for their prevention or suppression, so as to guard the country from the risk of serious loss and embarrassment.

In Britain, as has been mentioned, the value of comparative pathology, in the relations it bears to human medicine, to the public health and wealth, as well as to agriculture, has been strangely overlooked or ignored; and in consequence of this neglect, but little allowance has been made for the difficulties the practitioner of animal medicine has to contend with. Nor has the chief object of Veterinary Science received adequate acknowledgment, or the services of its most distinguished representatives been at all recognised. The rare instances in which animals can be seen by the veterinary surgeon in the earliest stages of disease, and when this would prove most amenable to medical treatment, delay generally due to the inability of those who have the care of animals to perceive these early stages; the fact that animals cannot, except in a negative manner, tell their woes, describe their sensations, or indicate what and where they suffer; the absence of those comforts and conveniences of the sick room, which cannot be called in to ameliorate their condition; the violence or stupor, as well as the structural arrangements and attitude of the sick creatures, which only too frequently render favourable positions for cure impossible; the slender means generally afforded for carrying out recommendations; together with the oftentimes intractable nature of these diseases, and the utilitarian influences alluded to above; all these, in the great majority of instances, militate against the adoption of curative treatment, or at least increase greatly its difficulties, and add a thousandfold to the value of those which have the prevention of disease for their object.

For more than forty years most destructive plagues of animals have prevailed in these islands, without any attempt, worthy of the name, having been made to check or extirpate them until within a very recent period. The losses from two exotic bovine diseases alone (Contagious Pleuro-Pneumonia or Lung-plague, and Foot-and-Mouth disease) have been estimated to have caused a loss, during the first thirty years of their prevalence in the United Kingdom, of 5,549,780 cattle, roughly valued at £83,616,854; while the invasion of Cattle Plague in 1865-66 has been calculated to have caused a money loss of from five to eight millions of pounds.

These are only two examples of what these scourges can do in the way of money loss, and which is but a portion of the damage they inflict.

Other contagious diseases are scarcely less damaging and harassing, but the injury the various animal plagues occasion is just in proportion to the value placed on Veterinary Science and its teachings. Where it is neglected, or its lessons are not attended to, there the havoc is greatest; but in those enlightened countries where the sanitary measures it prescribes are thoroughly and energetically carried out, their freedom from these preventible scourges is assured. The depredations made in two of our possessions, South Africa and Australia, by the Lung-plague alone, are quite appalling; and in India the loss brought about by contagious diseases among animals has been stated at not less than six millions of pounds annually. The damage done by Tuberculosis—a contagious disease of cattle, transmissible to several kinds of animals, and possibly also to man, by means of the flesh and milk of diseased beasts—cannot be even guessed at; but it must be enormous, when we learn how widely the malady is diffused, and that it is common among the most valuable herds.

Unfortunately, Veterinary Science is much in advance of public knowledge and opinion, with regard to dealing with animal plagues; and until its value is fully recognised, and the repressive measures it indicates are adopted and enforced, the consequences will continue to be felt in all their gravity by individuals directly, and by the community indirectly. There is grand work for Veterinary Science to accomplish in civilisation; for in proportion as the world is populated, and the animals so necessary to man are multiplied in number and increased in value, so will the benefits it can confer be brought into greater prominence and held in higher estimation.

Though receiving but scant notice in this country and allowed to struggle long and desperately against adverse circumstances, without much help or encouragement, those who have been the supporters and promoters of this science have no reason to be ashamed of the part they have played, nor of the results of their labours. In some respects England is ahead of Continental countries in its success in dealing with animal diseases, notwithstanding the greater favour and assistance accorded to Veterinary Science by them; and the question arises, how much further advanced would she have been, and how much more would she have profited, had she dealt kindly and considerately towards the science we have been engaged in surveying?

But apart from what we have noted as the "utility" aspect of Veterinary Science, there is the sacred sentiment of humanity to be reckoned with; and this sentiment must always be deeply concerned in the careful management, and the skilful medical and surgical treatment of the dumb creatures which minister so largely to our wants and our pleasures. This is fully recognised in the Charter of Incorporation, granted under Her Most Gracious Majesty's sign-manual in 1844, to the Royal College of Veterinary Surgeons, wherein it is stated that the graduates of the latter, by "their practice, under the blessing of Divine Providence, tend greatly to the alleviation of the sufferings of those animals entrusted to their care."

PIG-TYPHUS.*

At one time Pig-Typhus was mistaken, on account of its rapid course, for Milzbrand; but the use of the flesh of animals affected with Pig-Typhus produces no ill effects. In the blood, in Milzbrand, appear constantly peculiar "*milzbrandstabchen*," which have never been seen in pigs which have died from the above-named disease. By degrees it has come to be acknowledged, especially since the last sixty years, that the two diseases are quite distinct. In Typhus Fever of human beings, a germ of an unknown nature enters the blood, giving rise to a general blood derangement. In the blood of Pig-Typhus always appear numerous diplococci (Harms, 1869, Klein, 1878, Dettmers, 1880, Pasteur, 1882). But in reality Loffler, in 1882, was the first to describe the true character of the fungus after cultivating it. Schutz and Schottelius have afterwards studied it still more accurately, and demonstrated its power of communicating the disease to other animals, and have therefore concluded that this organism is truly the cause of Pig-Typhus. Through the observations of these scientists we are now assured that Pig-Typhus is, without a doubt, an infectious disease. The infecting agent is a small, rod-shaped bacillus, the length of which is from $\frac{1}{3}$ to $\frac{1}{4}$ the diameter of a red blood corpuscle. Thus it is a very minute organism, seen only under the higher powers of the microscope, and by close observation. It should be stained to be readily seen. The fungus is found chiefly on low-lying grounds, where it developes in colonies. In wet and rich pastures, the fungi appear as cloudy formations. They live in alkaline meat-broth, meat-juice, etc., of the horse, cattle, and the pig. In alkaline vegetable substances they do not grow, as in potatoes, turnips, etc.; nor in meat-broth of pigs which have once suffered from the disease. In a temperature of from 14° to 16° an active increase takes place. Whether the organism can form spores is not known. Schottelius believes spore-formation would very likely take place in a temperature of 40°, from the sixth to the eighth day.

Inoculation of the Pig-Typhus bacillus on guinea-pigs, fowls, dogs, and cats, is without effect; but in mice it causes death in from two to seven days. In rabbits, from the fifth to the ninth day, it either causes death, or brings on a severe attack of the disease seen in pigs. Pigeons usually die in from three to four days after inoculation. Pigs inoculated with the bacillus take the disease very slowly, and in most cases they appear only a little out of sorts, get over the disease very easily, and receive protection against future attack.

Different food-stuffs supposed to produce this disease have been proved to be inefficacious. (Deutsche Zeitschr. f. Thiermedicin und vergl. Pathologie, Bd. xii., Heft 4 u. 5, 1886.)

SUCCESSFUL TREATMENT OF ROARING.

In the last issue of the Veterinary Journal, mention was made, in the Editorial article, of the new treatment adopted for "Roaring," based on the pathology of the conditions upon which its production depends; and reference was also given to an article in the Journal for January and February, 1881, in which a complete cure was described. Our readers may be interested in perusing the following letter from Colonel Helsham Jones, Royal Engineers, who consulted us more than two years ago about a horse of his, which Mr. Hinge, Army Veterinary Department, Aldershot, had pronounced a confirmed "roarer." It is to be hoped that the treatment may be as successful with Ormonde. It will be observed that Colonel Jones alludes to the horse having

* Translated by R. W. Burke, V.S., A.V.D., Cawnpore.

a "twitching of the head;" this may have been brought on by the Faradisation, though it has never been noticed before. If due at all to the galvanism, it was probably the mode of its application, which we had not the opportunity of supervising.

"DEAR SIR,—You will remember advising me to try galvanism for 'roaring' rather more than two years ago. I think you will like to hear that it has been entirely successful. The animal, a mare, had a bad attack of Catarrhal Fever at Christmas 1883-1884. After her (apparent) recovery, I hunted her in February and March, 1884, and found she made a slight noise towards the end of the season. In August, 1884, Mr. Hinge pronounced her 'a confirmed roarer,' the cause being 'disease involving the laryngeal muscles.' I began galvanism in September, 1884, on your recommendation, and hunted the mare in the season 1884-1885, when I found she made rather less noise, but still a good deal. Galvanism was continued till about June 1885, when I found her much better, and so on after discontinued it, because she got a twitching of the head.

"In the season 1885-1886, she still made *some* noise, but a good deal less; and in the summer of 1886 it was scarcely perceptible. This season *she has made no noise*, and the twitching of her head has nearly ceased.—Believe me, very faithfully yours, H. HELSHAM JONES.

"Woodbridge, Suffolk.

"*March* 31, 1887."

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD APRIL 1ST, 1887.

Dr. FLEMING, President, in the Chair.

PRESENT: Professors McCall, Williams, Walley, Duguid; Messrs. Greaves, Harpley, Whittle, Taylor, Storrar, Campbell, Mulvey, H. L. Simpson, Carter, Woods, Santy, Barford, Wragg, J. F. Simpson; General Sir Frederick Fitzwygram; J. Roalfe Cox, and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the last meeting were read and confirmed.

Letters expressing their regret at their inability to attend the meeting were announced from the following members:—Mr. Dray, Mr. Cartledge, and a telegram from Professor Pritchard.

The following presentations to the Museum and Library were announced:—

(1) From Mr. Wm. South, F.R.C.V.S., case containing instruments for the treatment of Sandcrack.

(2) "Handbook on the Treatment of Sandcrack."

(3) "Handbook on Shoeing."

Calendar from the Pharmaceutical Society.

From the author, Mr. T. J. Symonds, A.V.D., "Book on Indian Grasses."

On the motion of Mr. P. TAYLOR, seconded by Mr. WHITTLE, a vote of thanks was passed to the respective donors.

Correspondence.

The following letters were read:—

From the Yorkshire Society, the Lancashire Veterinary Medical Association, the Lincolnshire Veterinary Medical Association, the Royal Counties Association, the Norfolk and Eastern Counties Veterinary Medical Association, the Central Veterinary Medical Association, and the Southern

Counties Veterinary Medical Association, strongly condemning the riotous proceedings at Edinburgh, and expressing a hope that the Council would make a thorough investigation into the whole matter.

From Professor Walley, giving notice that at the next meeting of Council he should move that the resolution passed on February 20th, relegating certain students for six months, should be rescinded, and that the students of the Edinburgh veterinary colleges be in future examined in alphabetical order, or indiscriminately.

From Mr. Harris, Deputy Town Clerk of Edinburgh, representing the views of the Lord Provost, magistrates, and Town Council of the City, as trustees of the Dick Veterinary College.

Examinations.

The SECRETARY announced the results of the last examinations of the Royal Veterinary College.

In Class C twenty-four passed, ten were rejected.

In Class B thirty-nine passed, nine were rejected.

In Class A thirteen passed, five were rejected.

One student in Class C was relegated to his studies till next January.

Mr. J. F. SIMPSON said there appeared to be rather a larger number of passes than usual; had the Principal of the Royal Veterinary College kept back any of the men whom he considered incompetent?

The PRESIDENT said he had been informed by Professor Robertson that twelve men in Class C were kept back as incompetent. He wished to mention that Mr. Wallace, M.P. for Edinburgh, had recently put a question in the House of Commons to the Lord Advocate, asking if by the Charter the fee chargeable by the Royal College was limited to a maximum of thirteen guineas; whether that sum was confirmed by statute, and whether by the regulations affecting examinations for diplomas applicants who had studied in Edinburgh or elsewhere might be caused to pay as much as thirty guineas before obtaining admission. The reply given by the Lord Advocate was that the fee of thirteen guineas was fixed by the Charter of 1883, and was in conformity with the Statute 44 and 45 Vic., c. 62. If a student, however, failed, and had to undergo a new examination, he must pay a further fee. If in any case as much as thirty guineas had been paid, it must have been because the student had repeatedly failed. He, the President, thought the Royal College must thank their solicitor (Mr. Thatcher) for having so well laid their case before the Lord Advocate.

The SECRETARY read the names of several persons who had been proposed for election on the Council.

The Report of the Examination Committee on the matter referred to them at the last meeting, was read.

The Report of the Finance Committee was read, showing the present liabilities, and the balance at the bankers. They recommended that the £500 remaining on deposit should be invested in Consols at 3 per cent.

On the motion of Mr. WRAGG, seconded by Mr. TAYLOR, it was ordered that the £500 be invested in Consols, and that cheques be drawn for the current expenses.

On the motion of Mr. WHITTLE, seconded by Mr. TAYLOR, the report was adopted.

The following gentlemen were nominated as scrutineers:—Messrs. Spooner, Gibbings, Peacock, Slocock, Batt, Briggs, Lambert, Bennett, Woods, Phillips, Pack, Dickinson, McGill, Gosling, Raymond.

The SECRETARY read a lengthy Obituary List.

The Jubilee.

Mr. H. L. SIMPSON said he had given notice that at this meeting he would move that a loyal and dutiful address be sent to Her Majesty on her Jubilee. It was not necessary to use many words in recommending a motion of this kind to so loyal a body as the Council of the Royal College of Veterinary Surgeons. He was sure they would agree with him that the Queen was well worthy of any commendation that they could give her. Such an occasion had never before occurred in the history of this country, as the Jubilee of a female sovereign. It should be remembered that it was during Her Majesty's reign that the first Charter of the College was granted, and it was under subsequent ones, all bearing Her Majesty s sign-manual, that the College had flourished. He would move, that a Committee, consisting of the President and the mover and seconder of the motion together with the Secretary, be authorised to draw up a loyal address to Her Majesty, and to affix the College seal thereto.

Mr. J. SIMPSON seconded the motion.

The PRESIDENT said it must be not only as a duty but with a feeling of intense pleasure that the Council would agree to the proposal. During the fifty years of Her Majesty's reign her empire had increased to dimensions greater than those of any previous empire, and the most glorious advances in science had been made. During the same period, too, veterinary science had made large strides. He was quite sure that every member of the profession, loyal as they were to the very core, would approve of the action that had been proposed.

The resolution was agreed to.

Report of the Examination Committee.

The PRESIDENT said the Committee appointed to investigate the circumstances connected with the riotous conduct of the students in Edinburgh had drawn up their report. Every endeavour was made to obtain reliable evidence, both from English and Scotch gentlemen, and it was for the Council now to discuss it.

Mr. TAYLOR proposed the reception of the report.

Mr. WHITTLE seconded the motion, which was agreed to.

Professor WILLIAMS thought it was hardly necessary to discuss the report. Quite enough had been said on both sides, and they might now endeavour to make peace.

Mr. J. F. SIMPSON said that, for the purpose of starting the discussion on the recommendations of the Committee, he was prepared to move that the report be adopted.

Professor MCCALL thought that the recommendation "that in future no person, except a Member of Council or Principal of a school, be present at any examination without the permission of the Chairman of the Board of Examiners," would do more harm than good. The teachers at the Glasgow Veterinary College made it a point always to be present at an examination, and to give the examiners all possible assistance. If the proposed recommendation were acted upon, his colleagues would feel very much hurt, for at the examinations they learned something to help them in their teaching. He therefore hoped that the Council would pause before promulgating such a recommendation.

Professor WILLIAMS said he also would regret to see the recommendation carried out.

Mr. WRAGG said the object simply was to give power to the Chairman of the Board of Examiners to exclude anyone who was likely to make himself obnoxious.

Mr. H. L. SIMPSON said that on receiving the Lord Provost's letter, he at once replied, as follows:—

"My Lord, I am in receipt of your circular letter, addressed to me as a Member of the Council of the Royal College of Veterinary Surgeons, in which you express a hope that the Council will rescind a resolution come to at the meeting on the 16th February. I think a notice of motion to rescind would have to be given, and the subject taken at the next meeting of the Council, who might deem it advisable to call a special meeting for the purpose.

"I write, believe me, only in the interests of peace and justice, and on this question you write about am no partisan. May I ask if you would furnish me with the report of the Chief Constable of the City of Edinburgh, and that of the other persons who have given reliable evidence, and a statement of the facts in your possession showing that besides students of the Dick College, students from the New Veterinary College took a part in the proceedings complained of. I think the evidence afforded by the reports you can give me, will very much facilitate a true appreciation of the unfortunate events which we must all deplore, and I think a settlement may thereby be arrived at.

"I write in haste, and will thank you to write me a reply to the care of the Secretary, R.C.V.S., 10, Red Lion Square, Holborn, London, so that I receive your reply on Friday, before one o'clock.

"Believe me, my lord, yours very faithfully,

"HENRY L. SIMPSON,

"Veterinary Surgeon by appointment to the Queen,

"Mayor of Windsor."

He had received an answer that the letter arrived too late for a reply to be sent in time, but it would be duly furnished. He thought it very desirable that the Council should know something about the contents of the Chief Constables' report, and therefore it might be advisable to defer the question for a time. He would move a resolution to that effect.

Mr. J. F. SIMPSON thought that as in all probability Professor Walley had given information to the Lord Provost, that gentleman would not object to stating what his evidence was.

Professor WALLEY said he was present at the meeting when the inquiry was held in Edinburgh, but the report was a private one to the Lord Provost, with which he had nothing to do. The Chief Superintendent of Police was requested to make a full inquiry, and did so. He (Professor Walley) gave no evidence to the Lord Provost beyond what appeared on the face of the report.

Mr. J. F. SIMPSON said that the expression in the report that there were others "besides students of the Dick College," was an admission that students of that college took part in the proceedings complained of. It was altogether a very curious document that required particularly careful reading. He would ask Professor Walley whether any names were given to the Lord Provost, and whether he knew those names.

Professor WALLEY said the Superintendent of Police took every means in his power to find out what students were present on the occasion, and he discovered that they came from more than one college.

The PRESIDENT said he took upon himself the entire responsibility of the course he had adopted. What he had done was done for the purpose of repelling the abominable slanders and unfounded statements, not only with regard to the Examiners, but also with regard to the entire body of the profession. Having been the victim of one explosion of the fury of the teachers and students in the columns of the Edinburgh papers, he might have used

expressions which were warm, but he still adhered to them. Every statement he had made he could certify to, and the gentlemen who issued the report were absolutely deceived so far as he himself was concerned. It was an entirely one-sided statement. The Head Constable had not communicated with the chief witnesses, namely, the gentlemen who were assaulted. The policeman who was there to protect the Examiners disappeared, and what evidence, therefore, could he give? The Examination Committee, on the other hand, had written and oral evidence from those who saw what took place. He thought that the least the Trustees of the Dick College could have done was to express regret that the teachers of the school had made unwarrantable attacks on the Royal College. He felt extremely hurt that a school, which at one time bore a reputation second to none, should have descended so low as to attack its own graduates, and to accuse the Royal College of Veterinary Surgeons of rejecting students because they could not get certain fees. He was perfectly certain that if the Trustees of the Dick College had known all the facts of the case, they would have presented a very different report.

General Sir F. FITZWYGRAM considered that, to some extent, the whole inquiry was a mistake. The schools were responsible for the behaviour of their students inside their walls; outside it was a matter for the police.

Professor MCCALL said it was evident that the Chief Constable's report was one-sided, because he had not precognosed Dr. Fleming, Mr. Robinson, and other gentlemen who were present. It had been stated that the students who had been relegated till July had obtained as high marks as others who were to be allowed to come up again in April. If that were so, he did not see how they could have been relegated for incompetency. He rather inclined to the opinion that they were relegated for having behaved unseemly. A few years ago two of his students behaved themselves in an improper manner to an Examiner. When he heard of it he called the students together, and told them it was a great disgrace, and that he should expect those who were accused to come forward. The two men admitted that they were the parties: they wrote an apology to the Examiners, and nothing more was heard about it. He would like Professor Walley to do something of the same kind, and then the Council might rescind their order.

The PRESIDENT said it was not usual, and certainly it would be very impolitic, on the part of the Board of Examiners, to inform the students, at the time of the examination, that they were relegated. The bye-laws provided for the Examiners reporting to the Council. The Examiners would bear him out in saying that a worse lot of students never came up for examination; out of twelve only three passed, and these simply by the skin of their teeth. It was almost an insult to the Examiners to have to examine such men, and there was not one of the students who would not be extremely benefited by being sent back to his studies for a longer period than usual. If Professor Walley had called upon them the morning after the riots, and expressed his regret that such a scene had occurred, and said that he would do his best to find out the leaders, the Examiners would have said nothing more about it. But no teacher from the Clyde Street School appeared, and the Examiners were subjected to worse treatment the next evening. To justify the students in their bad behaviour, letters appeared in the Edinburgh papers, and meetings were allowed to be held in the Clyde Street School, at which the Examiners were abused.

Professor MCCALL moved: "That the previous resolution be rescinded, and that the students be allowed to go up to their examinations in April if the President and Council of the College think they are fit." He would also suggest that Professor Walley should offer an apology and express his sorrow that the proceedings had taken place.

Professor WILLIAMS said he would second the motion if Professor Walley would express his regret, not so much at the riot as at what took place in the college afterwards.

Professor WALLEY considered that he had nothing to apologise for. If Mr. Rutherford's letter had not been accompanied by a threat, he most certainly should have inquired who the men were who were engaged in the disturbance.

The PRESIDENT said the riots themselves might have been passed over, but the action taken inside the college walls was a different matter. Meetings were allowed to be held at which language was used by teachers and students which was a disgrace to the college. The Principal was responsible for what was done within the college walls, and on his shoulders the blame must fall for the language that was used.

Professor WALLEY said that no one regretted more than he did this unfortunate occurrence, but a good deal had taken place during the last five years which tended to make things uncomfortable. There could be no smoke without a fire, but if it would satisfy the Council that he should express regret at what had happened he would do so. Would the Council accept from him an apology on behalf of those students in the Dick College who were present and took part in the disturbance?

Mr. TAYLOR thought the Council should demand a great deal more from the Principal of Dick College. That college was his alma mater, and originally was second to none in England; and unfortunately the riotous conduct which had taken place had discredited it beyond measure.

Mr. H. L. SIMPSON said he was convinced that the right and proper course would be to defer the whole matter until the Chief Constable's report was received from the Lord Provost.

Mr. GREAVES said the whole profession would hold Professor Walley in blame for not having made any exertion to get at the root of this matter, but he agreed with Mr. H. L. Simpson that it was better not to come to a conclusion until fuller information was received from the Edinburgh Town Council.

Mr. CAMPBELL recommended that the Council should accept an apology from Professor Walley on behalf of the riotous students, with a promise from him that he would do all in his power to furnish the names of the students who were seriously implicated in the assault on the Examiners.

After some further discussion the following resolution was carried *nem. con.*: "That this Council defer further action until the receipt of the information which Mr. Simpson has asked for from the Lord Provost and Town Council, with regard to the report which has been presented to each member of the Council from that body."

Professor MCCALL moved, "That the chairman of the Examining Board be empowered to refuse admission during examination to any person whose presence may be deemed objectionable."

Professor WILLIAMS seconded the motion, which was carried, those words to be substituted for the paragraph in the report of the Examination Committee relating to the power of the chairman of the Examiners to exclude persons from the examination-room.

SPECIAL MEETING.

On the motion of Mr. J. SIMPSON, seconded by Mr. BARFORD, the President, Treasurer, and Secretary were appointed to draw up the Annual Report.

The consideration of the amended Bye-laws was deferred until the next meeting.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

THE annual meeting was held at the George Hotel, Stamford, on Thursday afternoon, March 24th. In the absence of Mr. R. T. Hardy, of Sleaford, president of the association, Mr. T. Greaves, F.R.C.V.S., of Manchester, an hon. member, was called upon to fill the chair. There were also present: Mr. J. Mackinder, F.R.C.V.S., of Peterborough; Captain H. B. Russell, F.R.C.V.S., of Grantham, vice-president; Mr. F. L. Gooch, F.R.C.V.S., of Stamford; Mr. J. W. Gresswell, M.R.C.V.S., of Peterborough, vice-president; Mr. B. Frear, M.R.C.V.S., of Uppingham; Mr. T. Spencer, M.R.C.V.S., of Wragby, hon, treasurer; and Mr. Chas. Hartley, M.R.C.V.S., of Lincoln, hon. secretary. Mr. Swan, M.R.C.V.S., of Stamford, was also present as a visitor, as was Mr. Goodall, M.R.C.V.S., of Melton Mowbray, who was afterwards elected a member.

The minutes of the last meeting were taken as read.

The SECRETARY (the Treasurer at that time not having arrived) said the expenditure for the past year had been £21 2s. 9d., leaving a balance in hand of £5 11s. 2d. Letters regretting their inability to be present were read from Professor Robertson, of London; Mr. H. Howse, of Lincoln; Mr. Thos. E. Smith, of Market Rasen; Mr. F. H. Reeks, of Spalding; Mr. Herbert Rangeley, of Kirton-in-Lindsey; Mr. W. A. Field, of Grimsby; Mr. T. Brodie Gresswell, of Louth; and Mr. A. H. Santy, of Norwich.

Election of Officers.

Capt. RUSSELL said Mr. Hardy, their President, had carried out his duties quite to their expectations, and had done the best he could, for a man with a large country practice, to fulfil his duties honourably and faithfully, for which the thanks of that meeting were due to him. In his absence it was their duty to propose and elect some other gentleman to occupy that proud position. He thought they would all agree with him that they wanted some one who would give a stimulus to the Association, so as, in a manner, to drag themselves out of the mire. Though he supposed there were more veterinary surgeons in this country than in almost any other, yet happily they were all so busy that they could not get to the meetings. Whether from apathy or not he did not know, but they did not turn up at the meetings in the manner in which they should; therefore they needed someone who would act as a stimulus, and in his opinion they could not do better than elect their honorary friend, Mr. Greaves. (Cheers.) He was connected with nearly every veterinary association in the United Kingdom, and no doubt, as time went on, instead of meeting in such small numbers they would have larger meetings. He had therefore great pleasure in proposing that Mr. Greaves be elected President.

Mr. GRESSWELL seconded the resolution, remarking that Mr. Greaves had attended their meetings as well as anybody in the neighbourhood, although he had to come from Manchester. He was sure Mr. Greaves would give them all the assistance in his power, and he hoped that during his year of office the Association would improve.

The CHAIRMAN: I hardly know what to say. I would not reject the offer you have made if I thought the members of the Lincolnshire Veterinary Medical Association would support the chair properly. (Hear, hear.) I must say there has been a lukewarmness that has been very discouraging, and I am afraid I should not be supported; and it will be no credit to me, nor would it be pleasing to my feelings, to be left, as it were, to myself. The Midland Counties Association was at one time in much the same position as you are now, badly attended, They elected me president, and I managed to put new life into the Association, and it has gone on swimmingly ever since. If you gentlemen present will give me your support, I will accept the presidency.

Captain RUSSELL: We will do the best we can. We all appreciate that we are getting at too low an ebb, and that a great effort will be required to get us into a proper position. If we stay away from the meetings it will be solely because we cannot possibly get to them.

Mr. Greaves was then elected president; Mr. Hardy, the retiring president, Mr. Hartley, the retiring secretary, and Mr. Frear, of Uppingham, were elected vice-presidents.

Mr. MACKINDER said he begged to propose a gentleman for the office of Secretary. He was very sorry their present secretary considered he had done his share. [Mr. HARTLEY: No, I don't think I have done that.] They must thank him for the way in which he has done his duty. He would have had great pleasure in proposing him for the office again, but he was not willing to stand. He proposed Mr. F. L. Gooch, of Stamford, as their hon. secretary.

Mr. HARTLEY, in seconding the motion, said he felt he had not the time to devote to the office, which would be in most able hands if Mr. Gooch could see his way fit to accept it.

The motion was carried unanimously.

Mr. HARTLEY said that, as their present treasurer had intimated that he would resign, he proposed Captain Russell as treasurer. The finances wanted attending to, and he thought Captain Russell, as a man of the world and a business man, was most ably fitted for that post.

Mr. MACKINDER seconded the motion, which was unanimously adopted.

Captain RUSSELL returned thanks for his election, and moved a cordial vote of thanks to the retiring officers for the efficient manner in which they had discharged their duties.

Mr. GOOCH, in seconding the motion, returned thanks for his election.

Captain RUSSELL: Is it the duty of the treasurer to collect the subscriptions?

Mr, HARTLEY: Yes.

The CHAIRMAN said the ex-president and ex-secretary had done their duties efficiently. He could not speak too highly of their secretary's labours; he had done his duty thoroughly. He trusted he would always take the same interest in the Association he had done while in office.

New Members.

Mr. Goodall, of Melton Mowbray, and Mr. John Foulston, of Keelby, near Grimsby, were elected new members of the Association.

The Conduct of the Edinburgh Students.

Mr. J. MACKINDER said his duty was of a very painful character; it was to call attention to the proceedings of the Edinburgh veterinary students during the late examinations. He was very sorry the event had happened, that they were called upon to move a resolution on the subject. He thought most of them were aware of the cause of it. At the last examination at Edinburgh, certain of the students objected to the way in which the Examiners acted. Instead of appealing to the Council, they attacked the Examiners, and threw rotten eggs and oranges at them, and really made quite a riot. The effect had been to deteriorate the profession in the eyes of the public when Examiners were insulted in the streets. If the students had a grievance, they had the right to appeal to the Council; they had no right to try the Irish way of appeal—bullying. They did not believe in bullying. He had read the correspondence on the subject in the *Scotsman*, and most of those present had done. Professor Walley had told him it was not the rejected students who had created the disturbance. Well, he could hardly believe the students who had just got their diplomas would do such a thing. The

Examiners felt the insult very much. He did not wish to say anything against the students of any college, but they should not allow the gentlemen who represented them (for they elected the Councillors, who elected the Examiners) to be insulted. If the students had any objections, let them make it in a legitimate way. He proposed, "That this Association greatly regrets the recent scenes in the public streets at the last examination of students in Edinburgh, and calls upon the Council to use means to protect their Examiners from insult and injury." He also proposed that a copy of this resolution be sent to the Council.

The CHAIRMAN said this was a very interesting subject to him, as he was on the Council. He had come that day in a great measure to listen to any observations which might be made by any member of the Association, so that it might guide him to an opinion as to what course the Council should take.

Mr. MACKINDER said that Professor Walley had written to him, saying, "I see by a circular sent to me that you intend to bring the subject before the Association. The subject greatly interests me. Will you kindly send me word what sort of a resolution you will propose?" He wrote to him to say they would be pleased to see him at their meeting that day. The Professor wrote to say he had sent him some papers on the subject, but up to that morning he had not received them. Professor Walley said it was not the rejected students who caused the disturbances. It was simply disgraceful the way the Examiners were treated. Some of them were called by name. He did not say whether they had conducted the examinations fairly. He had made inquiries, and had heard it said that not a single unfair question had been put. He would not say the mob was composed entirely of students, because if there was a row in any street they would soon get a crowd; but the mob would not have known the names of the Examiners. It was not in the ordinary scholastic subjects, but in the practical examination, there had been the failure. They objected to Mr. Robinson who was, he believed, one of the Practical Examiners in cattle. Whether he had been hard on the students or not he would not say, but the conduct of the students was unjustifiable.

Mr. Frear said the students should have applied to the Council to redress their grievances, if they had any. From what he knew of the Examiners he did not think they would reject any student that was capable of becoming a member of the profession. He thought they, as members of the Lincolnshire Veterinary Medical Association, could not do better than express their feelings on the subject than in passing Mr. Mackinder's proposition, which he seconded.

Capt. RUSSELL said he was very pleased to hear the proposal which had emanated from Mr. Mackinder. He thought it was a perfectly legal and right and just resolution, and the Council should certainly take some means to protect their Examiners from insult and injury. With regard to the recent scenes, whilst not wishing to exonerate the students for the part they had taken in them, and fully agreeing that they had made a mistake, a fatal mistake, still it was possible there might be certain reasons which had occupied the minds of the students, leading them to adopt these means of procedure. Mr. Greaves, with his usual foresight, had grasped the situation, and demanded a committee to investigate the case fully. The case had already been prejudged by certain persons. Statements had been made, which ought to have been kept out of the papers altogether. A disturbance like this was easily put down by firm hands, but calling people names and writing scurrilous letters only added fuel to the fire. If this committee, which Mr. Greaves had asked for, was appointed, he (Capt. Russell) was of opinion that it would do a great deal of good. He would propose the following resolution:—"That the president and secretary of each of the veterinary medical associations (who may

not be members of the Council, professors, or examiners) be appointed by the Council of the Royal College of Veterinary Surgeons to investigate the cause of the riotous proceedings at the recent examination, and report fully to the Council, to enable them to take such steps as they may think fit to prevent a recurrence of such disturbance."

The CHAIRMAN: This question was brought before the Council at the last quarterly meeting, and fully discussed, and I may tell you that the motion which our friend, Mr. Mackinder, has made, has already been carried in the Council; so it is unnecessary, really, to put that one. We have given the Secretary of the Scottish section an authority to have sufficient protection at hand for the Examiners at the next examination. Dr. Fleming, Mr. Cox, and Professor Pritchard all said they would not go again to Edinburgh to be Examiners, unless we did give them protection. I stuck up for this motion in the Council as well as others. This was not a simple riot—it was a case of life and death. The language used was frightful; the cursing and swearing, groaning, hooting, and hissing, were enough to terrify any one.

Captain RUSSELL: Excuse me interrupting you, but there is no proof that the students were guilty of this conduct. I do not dispute for a moment that the mob were.

The CHAIRMAN said that at the Council it was stated that the name of one of the Examiners was mentioned, and there were cries of "We'll kill him." One member of the Council objected to this statement, when Dr. Fleming said, "I heard it myself." Professor Pritchard immediately said, "So did I." Mr. Cox and Professor Duguid said the same thing. Since the quarterly meeting of the Council they had had two meetings of the Examination Committee. The duties of this Committee were referred to the Examination Committee which had undertaken the duty of making these inquiries. They had a meeting of the Committee, and Dr. Fleming said, "I am President, but I will not put myself in the chair, because I shall have to be a witness." They had Professor Robertson and one or two other gentlemen, who gave evidence, and the Committee came to certain conclusions; they adopted about twelve resolutions, which would have to be placed before the Council at their next meeting, in a week or two's time. These resolutions showed, as far as they could ascertain, what the nature of the riot was, and how it emanated. The Edinburgh students had for years shown disrespect for the Examiners, whereas in London the same Examiners were treated with the greatest respect. Hats were taken off when the Examiners passed; but in Edinburgh it was very different—the students came with dirty hands and dirty faces, with dirty shirts, and clothing, not at all showing respect for the Examiners, but on the other hand showing great disrespect. At a meeting of the Lancashire Association the other day, he (Mr. Greaves) put the question, "Have you ever heard any of the good students find fault with the Examiners?" and the answer was, "No, they find no fault." Then he asked, "Have you ever heard the bad students, those you knew to be bad, find fault with the Examiners?" and the answer given to his question was, "They all find fault because they are not passed, and they are not passed because they are not qualified to pass." The question now arose whether they were to let the conduct of the students terrify them to such an extent that they would say, "We will remove the Examiner objected to." If they did remove him the next year the students would say (if there was an Examiner they did not like), "Oh, we will just kick up a rumpus, and we will get him shifted;" and thus they would be masters of the situation. It was the bad students, those who were not competent, who were kicking up this bother. He had assisted at the appointment of every Examiner, and been present at examinations; and as far as his judgment went, and as far as he had seen the Examiners, they had asked no improper question, they had never asked it in

an improper way; and he had been quite satisfied in London and in Edinburgh with both the oral and the practical examinations. He had not seen everything, of course, and there had been occasions, he was informed, on which an Examiner had spoken in an offensive and sneering manner, one Examiner, especially; but he believed this Examiner had (on this occasion) in a measure been unjustly blamed for the riot in January; it is a redeeming feature this gentleman is not an Englishman. Those two nights of the rioting at Edinburgh, it so happened that the vehemence of the students was directed against Mr. Robertson, of Greenock; but I am informed his marks proved that he had been more favourable to the students than any of the other Examiners had been; he gave more favourable marks, and was more the students' friend than any other member of the board, so that he had been treated unjustly. He believed the Examiners could never please the students unless they passed all that came before them. But that was not their duty—their duty was to form a correct opinion, and if the candidates were not fit, to firmly refuse to give them a diploma. He would be a weak Examiner who would pass any student; they could not permit that. As regarded Dr. Fleming, he believed he was as fair an Examiner as they could find. As regarded Mr. Cox and Professor Pritchard, he could say the same. Possibly they might get better than some of the other examiners. He advised the formation of a committee, and would say to them, "Go down to Edinburgh. Have a thorough examination. Investigate and consider all they have to say. If you find the grievance is not real, so much the better; but if there is just reason for their acting as they have done, if they have been provoked to the last degree, if there was just cause, remove that cause, whatever it may be." (Hear, hear.) He had said the proposal of Mr. Mackinder was not absolutely necessary because it had already been carried out in the Council. The other proposition, that of Captain Russell, he believed would be a very good one. At a meeting of the Lancashire Association, the night before last, they passed a resolution very much the same, that a thorough investigation should be made by a committee appointed by the Council, and that it should be held in Edinburgh. He thought it would do good, and that in that way they would get at facts they could not get at by any other means. One Association recently said, "We have full confidence in the Examiners." Another Association said they could not go so far as that; they thought there was some fault resting with the Examiners.

Mr. MACKINDER: In answer to your remark that the remedy suggested in my resolution has been taken, I consider such a resolution would strengthen the hands of the Council, when they (the different medical associations) think they have done right in doing as they have done. That is the reason why I have proposed the resolution.

Capt. RUSSELL: There is no harm in it at all.

The CHAIRMAN: In that sense it is right.

Mr. MACKINDER: My own object is to get the subject well ventilated; the more it is ventilated, the sooner we shall get at the truth. But if you appoint a committee, are you not trying the Council? You are appointing a committee who would perhaps move a vote of censure on the members of the Council, who then might resign.

Capt. RUSSELL: The committee will simply make an investigation, and report.

The CHAIRMAN: Am I to understand it would be a wholly independent committee, without bias, and independent of colleges, independent of Council, independent of Examiners?

Mr. GOOCH: The smaller the committee the better.

The CHAIRMAN: These disturbances must be put a stop to. It is a disgrace to the profession, it is a disgrace to the colleges, and it is a disgrace to

the students. The resolution says the committee "should be appointed by the Council." When I proposed there should be a committee formed to make a thorough investigation, Dr. Fleming met my argument in this way. He said, "We have had Professor Walley before us, and he has told us it is impossible for him to get any information, or give us any information, and the students' mouths are sealed. Therefore he would go to Edinburgh to investigate, and come back, without having gained any knowledge at all." We have had a meeting in London, and we have had three or four witnesses before us, and that might be called an investigation committee. I said, "I want before us the students who might give us some facts we are not in possession of. I would also have the professors of the colleges before the committee." I do not think the Council would be offended by the action of the committee. I, as a member of the Council, shall not be in the least offended. I will promise to support it, but I am apprehensive the Council would not adopt it.

Capt. RUSSELL: If they refuse, we can take it into our own hands.

Mr. HARTLEY: I think if the students have any wrong, they ought to have redress. They ought not to suffer from the whims of any man or of any men. If we appoint a committee of men free from any bias, it would have a beneficial effect. I think the committee must have the sanction of the Council, or we should cause the members of the Council to retire in a body. I will second Capt. Russell's proposition.

Capt. RUSSELL: My proposition would come as an extra one. It would not take the place of Mr. Mackinder's.

Both resolutions were then carried unanimously.

The New College.

Mr. MACKINDER, alluding to the new college, said that one of the windows was still at liberty. Many medical associations felt it would be rather strange to have one window not filled in, and yet felt they were not in a position to fill in a stained glass window at their own expense. Therefore several associations asked them to join in putting one in, so as to have a joint concern. The window would cost £50 or £60.

The CHAIRMAN: We have only £6 in hand.

Mr. MACKINDER said the Bath and West of England Association had made a grant of £10 towards the window. He suggested they should assist as far as they could afford.

The CHAIRMAN: You are doing yourself an honour by coupling yourself with the putting of a stained glass window in the new college. There are already three very creditable stained windows, and there was room for another one. The question was brought before the Lancashire Association a night or two ago. Although very desirous, they had no funds; they were therefore entirely precluded from doing anything. They simply let the matter fall.

It was eventually decided to join other associations to the extent of £5 towards the window.

The Next Meeting.

The next item on the agenda was a paper to be read by Mr. F. L. Gooch, F.R.C.V.S., on "Some notes on the parasites affecting our domesticated animals, and diseases arising therefrom." As it was now so late, it was decided to have this paper at the next meeting, to which Mr. Gooch said he was quite agreeable.

It was decided the next meeting should be held at Lincoln in June.

Capt. RUSSELL proposed, and Mr. MACKINDER seconded, a vote of thanks

to the chairman for presiding. In supporting the resolution, Mr. HARTLEY said he hoped Mr. Greaves would get them out of the hobble they were in, as he had done another association.

The motion was carried, and the proceedings then terminated.

FREDK. L. GOOCH, *Hon. Sec.*

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

THE annual meeting of this Society was held at the Bush Hotel, Carlisle, on the 11th of February. Members present:—Mr. McIntosh, Dumfries, President, in the Chair; Professor Williams, Edinboro'; Professor Lewis, Edinboro'; Mr. Bell, Carlisle; Mr. Bell, junior, Carlisle; Mr. Carlisle, Carlisle; Mr. Chalmers, Longtown; Mr. Dawson, Carlisle; Mr. Potts, Wigton; Mr. Coates, Brampton; Mr. Howe, Keswick; Mr. Young, Cockermouth; Mr. Donald, Wigton; Mr. Armstrong, Penrith (Secretary). Visitors: Messrs. Mulvey, Webb, Ashley, Shore, Wilkinson, and Brown.

The minutes of last meeting were read and confirmed. A letter was read from Mr. Roberts, resigning his membership of the Society, consequent on his removal to Liverpool.

Mr. Donald nominated the following gentlemen to be elected members of this Society at next meeting: Mr. J. Carruthers, Wigton, and Mr. J. McCanly, Carlisle.

The following letter was then read from Mr. Thompson, Aspatria, the president for last year, who was unable to attend, on account of ill-health: "I am very sorry that I cannot be with you to-day, which to me is a great disappointment and grief. However, let me thank you for the kind courtesy and support that you have extended to me during the past twelve months. True, the subjects brought before the members have only been two, viz., abortion and Pleuro-pneumonia, two of the most interesting and important subjects that could occupy the minds of professional men and breeders and feeders of stock at the present day. The losses entailed by Pleuro-pneumonia are looked upon as very extensive; but in my way of thinking, if the statistics of abortion in England could be made, Pleuro would be put into the shade, and yet each individual farmer in this case has to bear his own losses. The causes of abortion are many, but one, in my mind, is the great want of alkalies, in the soil, such as potash and soda, with too liberal a use of phosphoric acid, in the shape of superphosphate. It is a well-known fact that potash enters largely into plant construction; a want of it, therefore, will tend to prevent true cell formation, conducing to malformation and abortive growths, which in turn have an injurious effect upon the animals feeding thereon. To have true cell development in both vegetable and animal kingdom, it is important to have a sufficient supply of all materials necessary for that function; a deficiency of any one element will tend to upset the equilibrium of the beautiful and delicate process of cell construction, and the establishment of diseased action. Referring to Pleuro-pneumonia, the great engrossing subject of the present day, I hope our new president, in his inaugural address, will open up a fresh field for discussion on his excellent paper, read at our last meeting. I am sorry that such an important matter as this cannot be entered into, and, agreeing to differ without so much personality and vindictive feeling towards each other. We all have different ideas, as I can no more think with the president's brains, than he can walk with my legs; but why should we differ about that? and I say that it is a great pity indeed that we cannot record our varied opinions in a more dispassionate and professional manner, instead of one saying that inoculation will prevent the spread of disease, and another saying that it is no use. I have no faith in it. It would be far better if you could all agree to arrive at something

definite, that would prevent the spread of the malady, and benefit the community, and stamp the members of our profession as a body of scientific men. With reference to inoculation, from what little I have seen of it, I am thoroughly convinced, in my own mind, that it has the power of preventing the spread of the malady; and although there are many of our eminent men not favourable to the operation, yet I would fain hope that the day is not far distant when the inoculative virus may be modified, by passing through the body of some other animal, without destroying its protective influence, yet robbing it of its dangerous properties. Gentlemen, I again thank you for the honour that you have done me, and I hope that you will assist Mr. McIntosh, the president for the year, in the kind and genial way which you assisted me.

Mr. McINTOSH then delivered his inaugural address.

GENTLEMEN,—When you honoured me as President for the present year, I at first declined the honour, not from want of interest in this Association, but I could not see my way clearly to forward its interests as well as some of you might, which are more intimately connected with the formation of the Society and its members. I have, however, accepted, and it is my first duty to now thank you for the honour, and I may state that I will endeavour to further the interests to the best of my ability during my term of office. This much I am able to say, before I have had anything to do with this Association as its President, that your provincial meetings are better attended than this one, and I trust, gentlemen, that there will be no falling off in the future, but a continual increase. I still know of a good many veterinary surgeons within easy distance of Carlisle that might spend time worse than attend our meetings, and I hope they may be induced to join us. Seeing that I gave you a paper at our last meeting on a strictly professional subject, I will content myself on this occasion by addressing you very shortly on the progress that has been made by the veterinary profession within the last quarter of a century, and just the time that I have been one of its members. Twenty-five years ago there were no veterinary medical associations, or at least one or two. As a body of men following the same profession, we are entitled to look back upon the past to see what advance has been made, and what help we have given to the improvement that has gradually grown upon us. Many changes have taken place, from the preliminary examination of the intending student to the qualification necessary for being eligible for the Council Board: the altered position of the M.R.C.V.S. is a result of the new charter, as well as the recognised standing of the existing practitioner. That the preliminary examinations for studentship is a step in the right direction, and must eventually prove of direct benefit to the profession generally, cannot be doubted; for not only does it ensure that the candidate desirous of entering the profession shall have at least received the elements of a good education, but that educational training prepares the mind for the special work it has to undertake, and gives a certain proof the profession will be recruited from young men of culture and gentlemanly habits; and some of us know that under the old system the want of a good education before entering college was one of the greatest drawbacks to the student, and frequently felt in after life. The extended curriculum is another of the changes calculated to improve the profession. Under the old system of two sessions, with the examination at the end of the second, few young men were capable of acquiring more than a general outline of the subjects that were brought before their notice, and, unless it happened to be some of those who had served an apprenticeship, or continued their studies after becoming members of the profession, could only be members by name. Under the present system, with longer time, and the examinations conducted at different periods of the curriculum, the student has

a chance of becoming an intelligent member of the profession, and of getting a fair grasp of the subjects that are essential for the conducting of a successful practice; and the extra subjects, that are now a part of the training, combined with a careful and final examination, have done much to raise the position of the veterinary surgeon, both in the eyes of other professional men and the general public; and to those members who have taken a leading part in securing the altered conditions of the student of veterinary medicine, the thanks of the whole profession are due; and I hope yet to see some means devised whereby students may have better opportunities of seeing more of the practical side of the profession, before they present themselves for the final or pass examination; and I only suggest that this might be accomplished by an extra session devoted to the practical part, either with some practitioner, or by special practical instruction at college; and it is to be hoped that the examination in the practical part will be conducted on broad principles, for we know well the variety of opinions of professional men of all kinds, and how impossible it is for a student to have matured knowledge. How often do we find men of experience, at meetings such as this, as opposed as the poles in opinions on the same subjects, and this I find to exist fully as much among those who are recognised bodies in the profession, as amongst those of us who take a humbler *rôle*; and while speaking of the altered conditions for the benefit of the student, and the means by which this change has been brought about, I have the greatest pleasure in reminding you that, as a profession, our best thanks are due to Gen. Sir Fred. Fitzwygram, for the interest he has exhibited in the education of the veterinary student, and the inducements he has held out to him, in the shape of valuable prizes open to all our teaching schools; and might I suggest that a very small sum given annually by each veterinary medical association for a similar purpose would be well-spent money. It would never be missed, and might be a means of further stimulating the student to increased efforts. But I will now pass from the student to the veterinary surgeon, and ask what changes have taken place in the profession for him, during the last twenty-five years? Many, and some of them, serious. That he has benefitted by the improvement of the recruits filling his ranks, I have already admitted, and hope it will be generally admitted; but what have the bulk of the members of the profession done for themselves? In some respects a good deal, and in other far too little. There has been a deplorable want of interest, of union, and of action in the affairs of the profession. The formation of provincial veterinary medical societies, and the constant interchange of opinions, which are bound to take place at such associations, if judiciously managed in conjunction with kindred societies, are calculated to place a power in the hands of the many that has hitherto not been taken advantage of in veterinary politics. The general body of veterinary surgeons have been content in the past to let a few take the management of the general business belonging to the profession, and until lately had scarcely known what had been going on until too late, and unless any individual member happened to be under the living influence of some of the teaching schools, or in close accord with some of the inner circle of members of the Council, he had no earthly hope of making the very least impression upon the small but select circle, who looked after our general interests. The supplementary Charter, obtained ten years ago, had altered matters in this respect very materially, and has placed within the power of provincial association, if properly managed, the means of making themselves felt, in the shape of voting for members for Council. We are now in a position to discuss matters of importance to the profession at our meetings, and bring our views both before our brother practitioners at our own meetings, and also, through the publication of our doings, to the whole profession; and through our combined action with other societies we are in a position to

bring pressure to bear on any intending member of Council. But this power is limited, in consequence of another clause in the Charter, which I shall notice again. Beyond this, the existence of societies, such as ours, forms a channel by which important professional subjects are brought forward and thoroughly discussed—subjects upon which opinions are fully given and as fully criticised; and it will be evident to every one who makes it his duty to attend the meetings regularly that he goes home a better man, less selfish in his own ideas, and not infrequently has learned something which had not occurred to him before. Our associations are not intended, nor do they form a basis from which one man may show superior knowledge over another. I have never once (and I think my experience will be borne out by others) seen anything but a full discussion of the subjects before us, with the evident desire to clear up the matter; and let me here point out to the veterinary profession generally that it is often a very difficult matter for those having the management of our societies to induce a member to bring forward either a paper on some important subject, or a description of some important case; and when he is induced to do so, is it not like throwing cold water on his efforts, when very few members take the trouble to attend to hear him? If our associations are to flourish, and if we are to take the full benefit of the present powers, with a view to our general welfare, we must have a large and regular attendance of the members of the profession, and it ought to be the first duty of every M.R.C.V.S. to be a member of at least one veterinary medical association. The occasional meeting together of a number of societies—such as took place at Glasgow, the other day—when important national matters connected with our profession can be discussed are of vast importance, and shows a decided advance among ourselves over what existed twenty-five years ago. But, gentlemen, I cannot help drifting deeper into the subject, and ask whether all the changes that have taken place have been of advantage, or even fair, to the large body of the members of the Royal College of Veterinary Surgeons. I do not think they have, and I have often been astonished to see the passive indifference and utter helplessness of such a large body of intelligent men, in allowing the powers they possessed, in right of their membership, to be quietly taken out of their hands by a section of the profession, and that brings me to the new Charter. Gentlemen, that a supplemented Charter had become necessary for the welfare of the profession no one can deny. The abolition of the power or privilege, practised by the directors of the Highland Agricultural Society of Scotland, of granting veterinary certificates, which were recognised as a kind of diploma, and the powers centred in the Royal College of Veterinary Surgeons alone being the channel through which a diploma can be granted, is one of the strongest benefits the new Charter gives, and while I fully admit that most of the clauses contained in it are indispensable, I am bound to state that in my opinion, or in the opinion of a large number of the members of the profession, one or two of the clauses have been injurious to the members of the Royal College of Veterinary Surgeons, and never should have existed. I will first notice the Fellowship degree. The degree in itself is certainly not objectionable. I am decidedly of opinion that as a mark of distinction in the profession, either conferred by the Council after examination specially arranged, or to some member of the profession, who has really done good service to it, and who to all intents and purposes is an ornament in his profession, and in reality makes the holder of the degree specially distinguished in the profession. Under such an arrangement, the right of the Council to have such a clause inserted would have been appreciated by the members generally. But I hold, and will here express what has long existed in my mind, that those who were representing the Council board when the charter was obtained had no right whatever to have a clause inserted, whereby only Fellows after a certain date, which begins this year,

could be members of the Council board, or be eligible for the Board of Examiners. I do not, however, see so much objection to the Examiners being selected from those who are distinguished in the profession and who have obtained the Fellowship degree. But why have other of us been deprived of the right we possessed, as members of the Royal College of Veterinary Surgeons, in the common property and common privileges of its members? We entered the profession after submitting to the necessary ordeal, and after paying the prescribed fees, and, in doing so, became possessed of the rights of membership, which embraced the position of being eligible for the Council Board and a chance of having a voice in the management of our professional affairs, and I am strongly of opinion that that was a right of property that could not with honour have been taken away; and yet those who were representing us at the time managed so that the ordinary members of the profession, whose rights of property in it were at least equal to their own, should be excluded from some of the privileges that were theirs by right; and yet it fixed that those who were Fellows, either by self-election or otherwise, only could sit at the Council Board. I will say nothing about the safe arrangement made for themselves, but I ask you if this was not confiscating professional rights, and calculated to widen the ranks of the profession. And what have the veterinary medical societies done? Simply nothing. The members have looked on, while very few of the number are satisfied; and yet they continue, with a dissatisfied helplessness that could not be found in almost any other body of men, and allow matters to drift. The new Charter provides that existing practitioners—that is, men without any professional training, but who have been practising as quacks—are advanced to a recognised position, and only right, for to have deprived them of the means of existence would have been harsh and cruel, and, in this case, the Parliament of our country took care that existing rights were respected. Not so, however, with our representatives at the time on the Council Board. They placed us in a worse position than we were before. What has the clause alluded to done for the members of the Royal College of Veterinary Surgeons? It has deprived them of their legitimate rights, and created a gulf between them and the few who have taken possession of the management of the affairs of of our profession, and lessened the gulf between them and the non-qualified men, and placed the latter nearly on equal terms with those who are not Fellows. The members certainly still retain the power of voting for Members of Council, but the choice is limited, and the property and affairs of the profession generally are in the hands of a few. Can any one defend such treatment of such a large and respectable class of men, or expect those outside the profession to look with anything but sympathy upon a class who, with the power chiefly in their own hands, looked calmly on while this was being enacted? I tell you again that we are the only lot that would be treated in the same manner, and yet we meet to discuss our grievances. Try the artisan, and you will find that he will not be taken advantage of in the same way; neither will the miner. The tendency of the age has been, and still is, to remove all restrictive disabilities from entering the councils of our country, and the British House of Commons, who were entrusted with the management of the new Charter, with a narrowness that startles one, succeeded in getting this objectionable clause inserted, and now we are told that it is too late to do anything in the matter—that a new or supplemental charter would be required and difficult to get. All that I can say is that, if the large number of members are to be extinguished by the Fellows and deprived of their rights, then I think there will be a serious chance of greater divisions in the profession than ever existed during the time the Highland Society granted certificates, or would have existed if the Scotch section had made a more determined effort to get a separate charter for Scotland. I, in common with

others who, after having passed the Highland Society's examinations, at once submitted to and passed the Board of the Royal College of Veterinary Surgeons, considered that I had submitted to all the requirements, and imagined myself safe in having a right to all the privileges of the profession; and I, without hesitation, gave my name to a petition praying that the Royal College of Veterinary Surgeons should be the only authorised body capable of granting a diploma in veterinary science, and saw with pleasure the absorption of the holders of the Highland Agricultural Society's certificates only, on easy terms. But I soon felt, and feel still, that those of us who, from the first, endeavoured to put ourselves in the best position with the profession, have been the worst treated. I have often been asked, Why don't you go in for the Fellowship examination? My answer is, I am not speaking for the individual, but for the general body of the members, especially those who were members of the Royal College of Veterinary Surgeons, and entitled to sit at the Council Board if elected, long before the Fellowship's degree was considered. I have less to say for those who have studied veterinary medicine since 1876, with a full knowledge of what would be required of them. But as a preliminary, a member of the Royal College of Veterinary Surgeons, who may have been a successful practitioner for twenty or thirty years, must, before he can present himself for examination for the Fellowship degree, and the rights and privileges which he at one time possessed, ask some of his neighbours in the profession for a certificate of respectability. Gentlemen, in the past I think we have taken too little interest in our own affairs, and left rather too much liberty of action in the hands of a few, who, I am bound to admit, have done a good deal for the profession, but have not forgot themselves, and I look to associations such as this and kindred societies to keep a better grasp on the management of the profession. There are other points that might be profitably discussed, but I have no doubt some of you will think I have said enough, and I will leave it to others to fill up any omissions that may have been overlooked. I would just like to notice the clause in the Charter for the "Removing of members from the register" at a meeting of Council at which not less than two-thirds of the members are present, and by a vote of three-fourths of those present. Can any one of you inform me to what extent a member must have transgressed before that clause comes into force, or may come into force? For it is a serious matter for a member to have his name removed from the register. Is it necessary that he must have done some act that the ordinary law of the country takes notice of and a conviction obtained, or can the members of Council deal with him, with knowledge possessed by themselves only, and when no action has been taken by the ordinary law of our country? I hope you will depart from the ordinary course of not discussing an inaugural address, and give your opinions on some of the points I have touched. At the present time this very question has cropped up in consequence of what took place among the students in Edinburgh at the last examination held there, and I am of opinion that it is only right we should know exactly what our position is under the altered conditions of election to the Council Board.

Professor WILLIAMS said that, with reference to the last part of the President's very able address, on removal of members from the register, that a man must be convicted by some competent court of his having transgressed the law of the land, before his name can be removed from the register of the Royal College of Veterinary Surgeons, although I think it is very indistinctly stated in the Charter. There should be no possibility of removing names, unless the member has been convicted of some offence not affecting him as a professional man only. I should like to say that I have been associated with these societies for a very long period, having been the founder of the

Yorkshire Society, and the good feeling that exists is due to the associations being founded on a broad basis; and those who, like myself, had the certificate of the Highland Society only were in England acknowledged by the founders of these associations as being members of the profession. I practised with their certificate for nine years, and I went in for a charter for Scotland, with the same feeling as our President, who explained the position very fully and satisfactorily, but afterwards I thought it would be better to have only one diploma, and it was by "diplomacy" and conciliation that our society was finally established. As to an extended practical knowledge on the part of the student, I think this is a time for agitation on the subject. I brought forward a motion at the Council which was passed almost unanimously; but when the meeting was held to confirm the above resolution, it was carried against me on the ground that it would be inconvenient. I should like to express this by a resolution asking the Council to take this matter into consideration. I think it is a matter of very great importance, and it affects both parents and guardians, and it would relieve the schools. How is it possible for schools in large towns to give practical knowledge of any disease? I would separate the two branches entirely. Upon the Fellowship clause, I agree with the President entirely in every word he has said. I believe it is a great shame to take away the very birthright of the profession. The charter of 1844 confers certain rights upon a member, and I think that no charter should override that. I propose a vote of thanks to the President for his address, an address well worth consideration. I have never been to a meeting of any association that I did not learn something; there are difficulties and dangers in every one's way, and especially where one is in connection with a large teaching body of men, there is always something new, and something fresh, that never struck you before; in addition, they encourage fellowship by meeting one another, and I think associations should be developed, and every possible encouragement given to them.

Mr. MULVEY said he had very great pleasure in supporting the vote of thanks which Professor Williams had moved. I was very pleased to hear the standpoint our President takes on the Fellowship clause; as most of you are aware, it is in entire accordance with my opinions. I have endeavoured to bring that question forward at the Council-chamber, but, unfortunately, there was a great want of support. I agree with what the President has said, also what has fallen from Professor Williams. I think the Council has no right, by any fresh charter, to override the one of 1844, but it appears, from the opinion of counsel that was obtained, that without a new Charter the old one could not be altered; and that would have entailed a very great amount of expense, and possibly not have been the best thing for the profession under the circumstances. As it is, I believe many of the prominent members of the profession have since taken the degree, and I only hope, as there is no way of altering it, that those members of the profession who take any interest in it will go in for it, and take it.

Mr. DONALD said the Fellowship clause had always been of considerable interest in the Border Counties. I am in the unfortunate position of having graduated since 1876, therefore I suppose I have no rights in the matter.

Professor WILLIAMS: I think you are mistaken on that point.

Mr. DONALD: I don't know that those members who allowed the matter to be passed at that time are to blame; they ought to have raised their voices against it. I think if the members who graduated since 1876 have to lose their rights to membership, those gentlemen who were responsible for allowing such rights to lapse deserve to lose theirs.

Mr. MULVEY: Those who have passed since 1876 never possessed such right.

Mr. DONALD: If we had not, we ought to have had the right, and I think,

if the associations which were established at that time had taken up the subject, as the Border Counties did during the short time of its existence, their voice would have been heard in the Council-chamber.

Mr. BELL: I rise with very great pleasure to second the resolution which Professor Williams has moved. I think, however, that we are now discussing matters which are outside our province. They have become law, and it is now time to let them drop. I think there is no disposition on the part of the profession to apply for a new Charter. I would rather that your minds were directed to matters of probably more importance to the future generation of the profession in respect to the examinations, as I think that there ought to be a change of some kind made in conducting them.

Mr. DONALD: I beg to move the following resolution, and, if passed, that it be sent to the Council:—"That at the final or 'C' examination, the candidate be examined orally first; that if he pass the oral examination, he be allowed to present himself for the practical portion of the examination during the same sitting of the board. If he fail to pass the practical portion, he be relegated to his studies, either at college or with a member of the profession, for such time as the examiners may deem necessary, and allowed to present himself for the practical part only at the end of such period."

Mr. BELL: I have great pleasure in seconding that motion.

The CHAIRMAN: I understand that if this motion is carried, it be sent to members of the Council. I may add that we ask some other societies to take part in this matter, and I think they will take this matter up, and then we can give a stronger recommendation to Council. The motion was then put to the meeting, and carried unanimously.

The motion that the best thanks of this meeting be given to the President for his very able address was put to the meeting, and carried unanimously, with applause.

The PRESIDENT returned thanks for their kindness to him, and said that he did not agree with Messrs. Bell and Mulvey that the present Charter should remain law. The idea that members should give way to the Fellows is absurd. If we made a stand, we should compel them to take notice of our views. It is unfair and positively wrong that we should be deprived of our rights in the profession, simply because we do not submit to the Fellowship test. If we cannot get members of Council to support our views, let us get those who will do so; we can still hold our money and our votes. The educational training of students is one of the things of necessity we should draw the attention of the Council to. It does not matter, if a student passes theoretically, where he gets his practical knowledge from, but see that it is obtained before the examination takes place. The want of practical knowledge is one of the weak points of our profession. Many points of the Charter are so thoroughly good, and of such advantage to the profession, that they should be adopted.

At the close of the meeting the members and their friends sat down to the annual dinner, when the usual toasts, etc., were gone through.

JOHN ARMSTRONG, *Honorary Secretary.*

CENTRAL VETERINARY MEDICAL SOCIETY.

AT the meeting on the 3rd February, the following Fellows were present:—Messrs. J. Rowe (President), F. T. Oatway, A. Broad, G. A. Banham, W. Hunting, W. Willis, H. D. Gibbings, W. Roots, J. E. Jarvis, W. Roberts, F. Elworthy, J. E. Rickards, J. Ingersoll, J. F. Simpson, and S. Slocock. After preliminary business and some discussion on the election of councilmen, Mr. James Moore (Paris) read the following essay on

Soundness in Horses.

The subject of soundness, though not a question of scientific interest, is nevertheless one of importance from a practical point of view. The prevailing opinion as to what should be considered unsoundness is anything likely to interfere with the usefulness of an animal. The English profession, I consider, look at horse warranty in a wrong light, and fail to grasp the true sense of the matter.

Horse examination should comprise two distinct questions, a legal one and a professional one; one is generally confounded with the other, and this is the point to which I direct attention, as I consider that in delivering a certificate of soundness we exceed the requirements of our calling. It is for us to give the buyer our professional advice, but it is for the vendor to give the guarantee of soundness. How can we presume to say a horse is "sound"? We can only state that we fail to detect anything likely to interfere with the usefulness of the animal, but a certificate to this effect is a negative one, and valueless.

Some practitioners fancy they have surmounted a difficulty by inserting the words, "in my opinion" the animal is sound; but such certificates are as condemnable as those worded "sound"; the word opinion is a misrepresentation, the idea conveyed being that the animal is sound; moreover, I argue that a professional man is not justified in giving a decision respecting the soundness of a horse brought before him; Megrims, Wind-sucking, Specific Ophthalmia, Cribbiting, Intermittent Lameness, and several other ailments constitute unsoundness, yet are seldom detectable when the animal is presented for examination. Such being the case, I fail to see that a practitioner can be justified in giving an opinion when many of the determining points of the case are not subjected to his judgment. Most certificates of the kind referred to are but a field for contradiction, and so well is this appreciated that many trading in horseflesh are unwilling to warrant animals; and can we blame them, when the contradictory opinions given by veterinary surgeons are often nothing less than ridiculous? Yet it is urgent that we should have a warranty when purchasing, for how many dishonest dealers profit by this division to declare the worst of animals sound, declaring their good faith, but their dread of legal formulæ, with such uncertain evidence to deal with; even honest dealers do really have this fear, and refuse to warrant their animals. I lay the blame to this uncalled for certificate writing, and to the profession giving far too wide a scope to "unsoundness."

"Unsoundness," from a legal point of view, should simply refer to vices and defects which are not discoverable at the time of purchase—undetectable vices. What else can we ask of a seller? Why require a warranty respecting Splints, Spavins, Sidebones, Ringbones, Sprung Tendons, etc., etc.? In fact, is not the purchaser as well able as the vendor to appreciate whether this or that may interfere with the animal's usefulness in the kind of work for which he requires him; and does he not purchase and pay accordingly? Can we logically look upon as unsoundness, legally, and claim damages for, defects which we fully acknowledge are plainly discoverable? Very different it is, however, with regard to vices of an undetectable character; and these alone, gentlemen, are the cases which should be within the province of the law.

Should I have a horse presented for examination, and I remarked the existence of a defect, I might advise purchase providing my client had the benefit of the doubt; if the horse without defects were worth two hundred pounds, I might, taking the risk into consideration, pronounce the animal to be worth to the buyer £120 or £150, according to circumstances.

All buyers of horses could not examine and judge their purchases, but they should seek qualified advice, as I should take an architect's opinion were I purchasing a building, or a solicitor's, had I a lawsuit pending. We cannot

make laws to protect the careless; in fact, no law could suffice; it is well if it protect the competent; it is in endeavouring to protect flats that we create ridicule, and finally show up as flats ourselves.

I will illustrate my views again by the subjects of Splints and Spavins, with regard to which we have seen so much contradictory evidence as to their existence or non-existence. The question should be simple, and run thus: Did the defect exist at the time of sale? If it did, it is a detectable vice, and not legally an unsoundness; the purchaser or his adviser should have noticed it; the vendor is free from responsibility. Then again, if the defect did not exist at the time of sale, it must have declared itself while the horse was the property of the purchaser, and his, therefore, must be the loss, the defect not being a latent one, and one of those to which the term unsoundness applies legally.

We must take into consideration that law should not impede commercial transactions, and we should look upon horse warranty solely as a means of preventing fraud, and should therefore place within the meaning of the law only those cases against which a practical man can defend himself in buying, and we ought to limit the number of legal defects to as few as possible. Among them should be Crib-biting, Wind-sucking, Weaving, Specific Ophthalmia, Amaurosis, Immobility, Broken Wind, Megrims, Chronic Roaring, Quidding from dental caries, Excised Nerve, Chronic Lameness, Farcy and Glanders. All the vices here mentioned may from natural causes, or trickery, not be observable at the time of examination. Roaring and Whistling are detectable, but the difficulty of trial at auctions and fairs renders it necessary to include them. I have thought it advisable to include Broken Wind and Dental Caries, but these subjects are matter for debate, as is the time which should be allowed for detecting these unsound points. On the continent time varies in different parts; in France, nine days are allowed for most cases; thirty days are allowed for Megrims and Specific Ophthalmia. I am of opinion that thirty days should be granted for detecting Chronic Lameness.

It was the teaching at Camden Town that the wording of a certificate should be as short and simple as possible. There was sense in our professor's advice, we may say, the less of a wrong thing the better; still, so long as certificates exist, I would strongly urge that the identity of the horse examined should be explicitly described, as I have known some certificates used as means of trickery and discredit to the profession. I have come across certificates with no other description than "Bay Gelding, six years old." Such a certificate will serve for several horses, dealers sending one to be examined and selling another. I will now briefly recapitulate the points which I would like to hear debated—the desirability of limiting unsoundness, in a legal sense, to include only those defects which cannot be discovered by an examination; the advisability of distinguishing professional advice from a guarantee of soundness; the uselessness and wrong in the practice of wholesale certificate writing; and the urgency of correct identity.

I am of opinion that a commission should formulate those defects or vices which should come within the definition of unsoundness in a legal sense; that an Act might be obtained accordingly; failing this, that we should settle the same amongst ourselves by general consent of the profession, which would surely have weight in a law court.

Mr. HUNTING: I fear I have somewhat mistaken the writer's meaning. The English law on the subject of warranty is extremely simple. If you sell an article, describing it sound, it must be sound, whether it be a horse or a plate. If the buyer is not a qualified judge, he must employ a qualified man. There are far too many people who will walk round a horse that has every imaginable disease of the limbs, and buy it as sound. Again, if a veterinary surgeon is not wanted for detecting those diseases which were called apparent, what is the use of employing him to find defects what are not

apparent? Even if a time limit were fixed to the warranty, we should see there was still room for much dispute as to the date of origin of the unsoundness.

Mr. BROAD: The ideas of the essayist seem to me good, but it requires time to consider the working of the details before an idea can be given as to their practicability. Mr. Hunting certainly misunderstands the essayist on one point; instead of veterinary surgeons being in less request, Mr. Moore contends that, as so many defects would not be included in a warranty of soundness, few buyers would venture to buy without professional assistance.

Mr. BANHAM: I think the subject brought forward by Mr. Moore most important. Veterinary surgeons should endeavour to protect their clients against those ailments which they could not themselves detect.

Mr. GIBBINGS: There are in the essay many points worthy of consideration. A horse may be bought at a sale, and if attacked with Megrims in a week it could not be returned; the buyer must take the consequences. Mr. Moore's proposition would remedy this.

Mr. WRAGG: With regard to the time limit for Glanders to declare itself, I do not think even thirty days is long enough. Mr. Moore says that the contrary opinions of veterinary surgeons bring ridicule on the profession. I do not agree with him; the same is seen in all professions; doctors differ, engineers and architects disagree on professional topics; I have even heard of differences of opinion in the pulpit. Then if the English law were made similar to the French, our clients, I believe, would not seek our services, but would buy on their own responsibility.

Mr. MOORE, in reply, directed attention to the fact that he still regarded as unsoundness the possession of detectable defects. If he found a spavin, he would tell his client he was buying an unsound horse. The defects which were not detectable should be termed "legal" unsoundness. Under the English law a man could not have a horse long enough to give him a fair trial. A horse might appear perfectly sound for two or three days, and then show the lameness. He thought it much more easy for a man to buy a horse without skilled advice in England than it was in a country where he would buy entirely at his own risk. He mainly agreed with Mr. Wragg as to professional disagreement; still, when the difference of opinion concerned a matter of fact which should be above dispute, a slur was cast upon the skill or the probity of the persons engaged.

Mr. HUNTING, in proposing a vote of thanks to the essayist, said he wished to express his appreciation of the manner in which Mr. Moore had explained his views, which at first he had misunderstood. ALFRED BROAD, *Hon. Sec.*

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of the North of England Veterinary Medical Association was held on Friday, February 25th, 1887, in the County Hotel, Newcastle-on-Tyne, the President, Mr. D. Dudgeon, in the chair.

Present: Messrs. Nisbet, Fence Houses; Grieve, Blaydon; Mitchell, Sunderland; Chivas, Corbridge; Wheatley, South Shields; Mulvey, Bishop Auckland; Gofton, North Shields; Stephenson, Moore, Hancock, H. Hunter, and the Secretary, Newcastle-on-Tyne.

The minutes of the last meeting were taken as read.

Letters of apology were read from Professors Robertson and Walley; Messrs. Greaves, Manchester; Briggs, Darlington; J. E. Peele, G. Farrow, Durham; H. Peele, West Hartlepool; Elphick, Gresty, Newcastle-on-Tyne; and Aude, Stockton.

Mr. Stevenson, Whitburn, was unanimously elected a member of this Association.

Mr. GOFTON moved, "That Rule 18 be altered, and that in future, in addition to the accounts being audited, there is a printed balance-sheet sent to each member." Seconded by Mr. MULVEY, and carried unanimously.

Mr. NISBET, as a member of the Committee for the Greaves' Testimonial Fund, said he would be glad to receive subscriptions from any of the members.

The PRESIDENT then delivered his inaugural address, and in the course of his remarks regarding the Contagious Diseases (Animals) Acts, and the diseases included thereunder, he said that the cry still is—How are we to get rid of them? In dealing with Pleuro-pneumonia, inoculation has, for the last five-and-thirty years been practised more or less on the continents of Europe and America, in Australia, and also in this country, and its advocates tell us that it is the most scientific as well as the most economical method of getting rid of this disease. But what are the facts? Simply, that if statistics are to be relied on, no country has ever been able to rid itself of this disease by means of inoculation. Take, as an example, Scotland, where the operation is so skilfully performed, and the subjects so carefully selected, by some of the most eminent veterinary surgeons in the country. Yet what are the results? The disease continues to increase. During the first seven weeks of 1886 there were twelve outbreaks, in the corresponding period of 1887 there were fifty-one, and at present there are twelve infected counties in that country. Comment on this is unnecessary.

The PRESIDENT further stated that it appeared to him that the more you inoculated the more did the disease spread, and most emphatically declared that the country would never get rid of Pleuro-pneumonia by means of inoculation. He said there was but one method, and one method only, by which this fatal and insidious disease could be stamped out, and that remedy was the "pole-axe," slaughtering not only the infected cow or ox, but also every animal that had been in contact with it, or in any way exposed to the contagion. To have this done effectually, it must be made compulsory by law, and not left to the option of local authorities. Until there is one central authority to carry out all the provisions of the Contagious Diseases (Animals) Act, and the Orders in Council made thereunder, there will never be that promptitude and uniformity of action which is necessary to stamp out such a formidable disease as Pleuro-pneumonia. Further, the same regulations that apply to Great Britain must be in force in Ireland.

The PRESIDENT specially pressed the members to express their opinions freely, as this was a question of great importance to the nation at large, and one about which the veterinary profession ought to utter no uncertain sound.

A very animated and instructive discussion followed, in which most of the members present took part, and, with two exceptions, agreed with the Chairman's remarks. Messrs. Nisbet and Mitchell were in favour of inoculation, in order that cattle exposed to contagion might be fed for the butcher, and that they go direct from the infected place to the slaughter-house, and never be allowed to mix with other cattle.

Mr. CLEMENT STEPHENSON said he thoroughly endorsed every word the President had said, and that we would never get rid of Pleuro-pneumonia as long as one local authority was allowed to inoculate, another to kill only the diseased animals, while a third honestly did its duty by slaughtering not only the diseased animals, but all that had been in contact with them; and until this latter course was made compulsory both in Great Britain and Ireland, and was carried out by one central authority, we should still have the disease among our cattle. Further, he was of opinion that to inoculate animals for the purpose of fattening them within an infected place would simply be a waste of time and money, and would entail far greater loss than their prompt slaughter.

Mr. MULVEY then read his paper on "The Inspection of Dairies, Cowsheds, and Slaughter-houses," as follows:—

GENTLEMEN,—At one of the meetings of this Association the subject of the inspection of dairies, cowsheds, and slaughter-houses was introduced, and a committee from the members of this Association was formed to bring the subject before the Corporation of the City of Newcastle, asking them to appoint a veterinary surgeon to the office, on the ground that both by his education and his acquaintance with the habits of animals in health and disease, he was the most fitted to carry out the requirements of the Act with advantage to the public; and that his appointment would also be a guarantee to the owners of cattle that there would be no foolish or mischievous interference with the legitimate business of the dairyman or cowkeeper. I am not aware whether that committee ever met, or what was the result of their representations to the members of the Corporation.

The Dairies, Cowsheds, and Milk-shops Act states very fully, and very much to the point, that dairies and cowsheds shall have provision made for the proper lighting, ventilating, including air space, cleansing, drainage, and water supply necessary for the health and good condition of the cattle therein—for the cleanliness of the milk-vessels used for containing milk for sale, and for the protection of the milk against infection. The provisions of the Act are excellent, but are they carried out? In some of the large towns I believe a sort of system is adopted, a species of inspection that is almost worse than useless, and is no guarantee to the public that they are protected against buying a diseased product, and Why? because, as a rule, the men who are appointed inspectors know nothing whatever of disease or its products and results, or the dangers arising from the absence of sanitary arrangements in the smaller towns and villages; the Act is simply ignored, and it is only by such associations as this, continually forcing themselves to be heard, and warning the authorities of the danger incurred by the public, that any alteration will be made. The time will probably come, sooner or later, when in every district (as is already the case in many parts of the Continent) will be appointed a veterinary surgeon as inspector, both of dairies and slaughter-houses, and adviser to the authorities on subjects connected with the public health, and it is to that end we, who know the advantage such an appointment would be to the public, and who have, in addition, the best interests of the veterinary profession at heart, must labour and wait. How is it possible for cattle living in close confined byres, in which there is no ventilation (and it is a matter of almost religious belief with many cowkeepers that the byre must be kept warm, and every breath of air excluded), no provision for carrying off the excreta, and an utter absence of light, and usually a heap of manure in the immediate vicinity—how is it possible, I say, for animals living in such circumstances to be in that healthy condition necessary to produce milk of a character calculated to build up and nourish the children of the human race? Recently I was in a byre in which were tied up over twenty cows, and at one end a horse suffering from that horrible disease, Farcy; the same men who attended to and *milked the cows* were looking after and attending to the horse. Through this byre ran a drain, and there were two untrapped grates from which the sewer-gas escaped at its own sweet will.

It has been proved beyond doubt, and I thoroughly endorse it, that very many of the disorders to which children are subject are due to the deleterious character of the milk which forms their sustenance, and that many of the diseases which show themselves in more advanced life are the direct result of imbibing milk from diseased cows. I allude more particularly to that fell disease, Tuberculosis or Phthisis, which every year carries off its victims by hundreds. Tuberculosis in cattle, more particularly amongst milk cows, is,

and has been, on the increase, and it is a well-known fact to veterinary surgeons that cows suffering from this disease will give a large quantity of milk, even when the disease is present in an advanced stage. In "Veterinary Sanitary Science," Dr. Fleming states that, independently of hereditary influence, there can scarcely be any hesitation in affirming that certain external circumstances will, either directly or indirectly, lead to the development of this disease; such influences as dark, filthy, and badly-ventilated dwellings, food insufficient in quantity or defective in quality, etc. But there are two causes which appear to be most potent in its production; these are prolonged and excessive lactation, and a cold and damp atmosphere. Dr. Fleming further on states that Klebs has carried out a series of experiments on various animals to test the action of this milk when given as food, and has been successful in inducing Tuberculosis in them. Gerlach and others have demonstrated that the milk of tuberculous cattle will produce Phthisis in creatures fed with it. This subject was very fully discussed at the Veterinary Congress, held in London some four years ago; and many cases were mentioned by the members present, which had come under their personal observation, of the dire results of the partaking of milk from tuberculous cows. It is on such grounds as these that the public have a right to demand that only such men should be appointed inspectors of dairies and cowsheds who are qualified to distinguish animals suffering from disease, and that power should be given them to prohibit the sale of milk from diseased cows, and which at present the authorities have no power to stop.

In introducing this subject for discussion, I propose to give an outline of the general appearance and constituents of health, and then briefly notice some of the alterations that are met with, the result either of adulteration or from the fact of the milk itself being the produce of a diseased animal.

Healthy milk should be perfectly opaque, white in colour, without deposit, or peculiar smell, or taste, and should not alter in appearance when boiled; its specific gravity varies from 102·6 to 103·5, the average at 60 Fahr. being 103·0, a large quantity of cream lowering it; it should be slightly alkaline, or neutral; its chemical composition when its specific gravity is 103·0 is in 100 parts as follows:—

Casein	4·0
Fat	3·7
Lactin	5·0
Salts	0·6
Total solids . . .	13·3
Water	86·7

When examined with the microscope the only elements found are round fat globules, and perhaps a small number of epithelial cells; good milk should contain about 10 per cent. of cream. Professor Soxhlet, of Munich, has shown that if the cowsheds, etc., be perfectly clean, the milk from the cows in them may be kept from forty to sixty hours. Milk may be affected, or altered in quality from various causes amongst others from the nature of the food or water with which the animal is supplied; if the cows are fed on poor, bad food, the milk is necessarily thin and watery, and, *vice versâ*, with animals well kept the milk is naturally of better quality, containing more fat; as the result of excitement, or nervous irritability, milk becomes acid, and quickly coagulates; an alteration also frequently takes place at, and during the period of, œstrum, at which time the milk contains leucocytes, and may, and very frequently does, produce digestive derangements in young animals partaking of it, accompanied with colicky pains, Diarrhœa, or even Dysentery. Again, milk occasionally contains too large a proportion of salts,

and these may be deposited as gritty particles at the bottom of the vessel. Milk of this kind is secreted by cattle affected with chronic diseases.

In a paper of this kind it is unnecessary for me to go into the various alterations occasionally met with in milk, arising as they do from so many different causes, such as acid milk, which may be due to inflammation of the udder, digestive disturbance causing fermentative action, or may, and often does, arise from the milk being kept in a warm room, or more often from the vessel in which it is placed not being clean; again, milk kept in damp, unhealthy dairies, in which there is little ventilation, has a stale, mucous-like taste and smell.

Milk is said to absorb impurities the most readily of all fluids, and, as it is a fertile field for some forms of germ life, should not be exposed to filthy smells and gases. Cases are continually being reported in which the spread of contagious disease is traced to milk contamination, with a certainty that must be convincing to all but the most sceptical. Recently there has been an extensive outbreak of Typhoid Fever in York; between October 16th and December 18th, 168 were reported, and of these 111 are proved to have used the milk from a certain dairy. On inquiries being made, two unreported cases of Typhoid are found to exist in the family of the manager. The dairy-pump had a privy on one side, and an open ash-pit on the other. There can be no stronger evidence adduced of the absolute necessity of a thorough inspection of dairies, cowsheds, and their surroundings. Cows should not be allowed to drink from stagnant pools and streams receiving the drainage of the yards. Cleanliness should take the very highest place, every utensil into which milk is received should be carefully scoured and scalded with hot water and soda. I will sum up this short and somewhat crude paper by saying that, as it is an admitted fact that milk is one of the best media for cultivating germs or micro-organisms, it is an absolute necessity that not only should the dairy, milk-shop, cowshed, and all their surroundings, be kept in as perfect a sanitary state as is possible, but that they, and the animals themselves, should be regularly and periodically examined by a thoroughly qualified inspector.

A good discussion followed, after which Mr. MOORE proposed a vote of thanks to Messrs. Dudgeon and Mulvey for their very interesting papers, which brought the meeting to a close. ANDREW HUNTER, *Hon. Sec.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE annual meeting of the Scottish Metropolitan Veterinary Medical Society was held in the London Hotel, Edinburgh, on Wednesday, 23rd February. Principal Williams, of the New Veterinary College, as retiring President of the Association, occupied the chair. There was a very representative attendance.

Personalities in the Society.

A letter was read from Mr, R. Rutherford, F.R.C.V.S., Edinburgh, resigning his membership of the Association. He had never, he said, objected to having, in a metaphorical sense, his corns trodden upon, in return for having, in the course of discussing any subject, trodden upon those of any other member. At the meeting on November 17th, however, this line was overstepped. Reference was made by a member in connection with the writer's appointment to an official post on the staff of the Royal College of Veterinary Surgeons. That reference he considered to be entirely irrelevant to the subject under discussion, and in its personal aspect, in exceeding bad taste, and offensive. He could not, therefore, with any respect to himself, or to the position which he held, run the risk of repetition of such a thing, and so he resigned.

The CHAIRMAN regretted that Mr. Rutherford had seen it necessary to

send in his resignation. He had spoken to Mr. Rutherford on the subject, and if that gentleman had not insisted on resigning, of course they would not have had the resignation before them. In the circumstances, it was for them to consider whether the resignation should be accepted.

Mr. CUNNINGHAM, Slateford, expressed sympathy with Mr. Rutherford in the position in which he had been placed. He did not think that the remarks which were objected to should have been made. If a good member of the Society was to have personal references made towards him, it was useless for that member to remain. It was for the meeting to say whether they would allow a good member to retire, or express sympathy with him, and resolve not to allow a repetition of personal references. He moved that Mr. Rutherford's resignation be not accepted, but that they express sympathy with him, and ask him to return to the Society.

Mr. HUTTON, Kelso, seconded the motion.

Mr. CONNACHIE, Selkirk, supported the motion, believing that but for Mr. Rutherford the Association would long ago have been defunct. They could not afford to lose Mr. Rutherford, and they could not afford to allow personal remarks to be brought up at their business meeting. (Hear, hear.)

Professor LEWIS, New Veterinary College, thought it was a great mistake of members to come out with personalities that were likely to injure the feelings of others present. Anyone who had any experience of the working of such societies knew that it was with great difficulty they could keep together—to get members to attend their meetings and pay subscriptions—without any disagreeable matters of that kind cropping up. (Hear, hear.) Recently, he was sorry to say, personalities in their meetings were no exceptional things. They had oftener than once had examples of objectionable feeling, and he hoped they would have no more—that personalities would be things of the past. (Hear, hear.)

Professor M'FADYEAN said—I think that the Association might have been spared this little farce—a very well-rehearsed farce too.

The CHAIRMAN.—I beg Professor M'Fadyean to remember that I am still President of the Society, and to be careful as to the observations he is to make.

Professor M'FADYEAN.—I do not forget that.

The PRESIDENT.—It is my duty, as chairman, to say whether it is a farce or not.

Professor M'FADYEAN.—It is not your duty to curb me in any legitimate expression on my part. If you call me to order for calling this a farce I shall sit down.

The CHAIRMAN.—Then I call you to order, sir. (Slight applause.)

Principal WALLEY said he did not happen to be in the room when the discussion began, but he took it that some reference had been made to personalities used towards Mr. Rutherford. He thought he might lay claim to having done as much for their Association as Mr. Rutherford or any one else, and he might be allowed to complain when he thought that personalities had been indulged in against himself. Any member who was present at the previous meeting of the Association must have been of obtuse intellect who could not recollect the direct personal remarks made towards him by Mr. Rutherford. Mr. Rutherford made no less than four direct charges of cruelty and other things in connection with matters associated with his (Professor Walley's) duties. Not only so, but Mr. Rutherford made a very personal remark with reference to some unfortunate results of inoculation that had fallen to his (Professor Walley's) lot during last summer. If anyone had a right to complain of personalities, he thought that he had. No one had a greater dislike to personalities than himself, and no one was less likely to utter them, but when they were made against him he had the right to protect

himself. He was sorry that a member of the Association with whom he had been associated for so long a period as Mr. Rutherford should consider it necessary to withdraw.

Professor M'FADYEAN moved that the resignation should be accepted, but there being no seconder to this amendment, the motion was adopted.

The new Office-Bearers.

Principal Williams vacated the chair in favour of the new President, Mr. Burnett, Maybole; and Mr. Archibald Baird took office as Secretary, in succession to Mr. W. Owen Williams. The new President proceeded to deliver the annual presidential address, which dealt with the history of medicine and progress of veterinary science from early ages and stages.

GENTLEMEN,—It is the custom and privilege of this and other associations for the President to deliver an inaugural address, and so many and varied have been the addresses already delivered, that it is very difficult to avoid travelling a beaten path. It was my intention to have delivered an address on the progress of veterinary medicine, but when looking over the addresses already delivered at this and other associations, I found that veterinary medicine has already been treated on in many different forms; and as the scientific history of veterinary medicine and medicine proper are almost inseparable, I have chosen for my subject the history of medicine from the earliest ages; and if not instructive, it may be interesting.

The history of medicine is so intimately connected with the history of literature in general, the progress of civilisation, the development of the human mind, a view of the various phases which the science has assumed is both useful and instructive, showing the many different notions the ancient phyisicans entertained respecting disease and the cause of it.

It is the popular notion that the foundation of medicine was first laid in Greece, but ages before, while the veil of darkness still hung over Greece, science, literature, and art flourished in Egypt. Egypt, like Babylon, but yet unlike—like Babylon the inscriptions, on her palaces and monuments were a sealed book until recent times; but unlike, while Babylon lay buried and unknown to the world, the Egyptian temples, pyramids, and tombs, pictorial representations and inscriptions, have stood in the open light of day from the time of the Pharaohs, and stand so still; and like the majestic Sphinx offered a problem to the world which until recent times could not be solved. Alexander the Macedonian conqueror, Cæsar with his Roman legions, and the Corsican conqueror who had subdued Italy, all saw them; and the grand faces of the colossal statues smiled massively serene as they all passed by. Greek travellers in the days of Greek culture, in that old and mysterious land of the Nile, wandered curiously along the avenues lined with Sphinx, and fane, and obelisk, entered palaces by gateways guarded by pillars bewildering with hieroglyphics, and wound with brazen serpents, and adorned with winged creatures; they enter the halls of the temples and receive from the lips of the priests legends of dynasties and kings, found in the mysterious land, the cradle of their own hearts, sciences, and literature, and with Greek facility constructed histories which passed almost unquestioned until the slab of black basalt captured in 1799 by the French at Rosetta yielded to eager search of Champollion, Young, and others, the key by which they became masters of the secret of the monumental inscriptions. Manetho, an Egyptian priest who wrote a history of Egypt, gives a list of thirty royal dynasties, from the line of Menes, the first mortal king, to the conquest of Egypt by Alexander. Manetho assigns to the thirty dynasties a duration of 4700 years. Modern investigators are divided as to the duration of the dynasties and when they began. M. Mariette fixes it at 5004 B.C.; Mr. Birch, the Keeper of the Oriental Antiquities in the British Museum,

assigns a date of "about" 3000 B.C.; but the actual date is very uncertain, there being no monuments or inscriptions of a date anterior to the close of the third dynasty; and without their aid it is impossible to supersede tradition by more authentic history.

(To be continued.)

ROYAL AGRICULTURAL SOCIETY.

AT the monthly council meeting, held on April 6th, Sir JOHN THOROLD stated that the President had brought before the Committee an outbreak of Anthrax in Cheshire, and it had been arranged, after due consideration, that Professor Brown should make a report when the investigations were completed. Another case of Anthrax at Limington, in Somersetshire, came under the notice of the Committee, and it was decided to wait the result of the investigation of the case in Cheshire. Professor Brown had presented the following report:—

"*Pleuro-pneumonia.*—This disease has materially decreased in Great Britain during the first three months of this year compared with the corresponding period in 1886. In England there have been 65 outbreaks and 291 cattle attacked, whereas in 1886 there were 81 outbreaks and 419 cattle attacked, showing a decrease of 16 outbreaks and 118 cattle attacked. In Scotland the outbreaks have increased from 43 in 1886 to 112 in 1887, and the number of cattle attacked from 145 to 516.

"*Anthrax.*—During the four weeks ending March 25th outbreaks of the above disease have been reported in the following counties in Great Britain:—Banff, Cheshire, Dorset, Dumfries, Derby, Essex, Fife, Forfar, Hertford, Hereford, Isle of Ely, Linlithgow, Lincoln, Norfolk, Notts, Somerset, and Sussex. Eighty animals were attacked, of which four were slaughtered, and the remainder died.

"*Swine Fever.*—During the four weeks ending March 26th there have been 589 outbreaks of this disease reported, and 2,491 swine attacked. The disease is most prevalent in England, but outbreaks have also been reported from Wales and Scotland.

"*Rabies.*—Twenty-seven cases of Rabies in dogs have been reported during the last month in the counties of Cheshire, Derby, Hants, Lancashire, Lincoln, Notts, Salop, Sussex, Warwick, Worcestershire, and West Riding of Yorkshire."

The report having been presented, Mr. MARTIN desired to have information from Professor Brown as to a reported outbreak of Anthrax at Whittlesea, near Peterborough. The inspector had reported that there was no evidence of Anthrax.

Professor BROWN was unable to give Mr. Martin any definite information on the case mentioned, as so many cases of reported outbreaks had been made lately, some of which were not borne out by the inquiries made. Referring to the Cheshire cases, he had heard from the veterinary inspector who had gone down that there was at this moment nothing to lead to the conclusion that Anthrax exists on the farm. One of the animals had been slaughtered, and experiments would be made with the blood, when they would be able to determine whether the outbreak was one of Anthrax or not.

In reply to the President, Professor BROWN stated that Mr. Duguid's opinion (with whom he had only had about five minutes' conversation previous to getting to the Council) was that the disease was rather a lower form of Swine Fever than Anthrax.

The PRESIDENT thought that if Professor Duguid had been sent down at first it would have been decided whether it was Anthrax or not.

Professor BROWN said that with their present staff they were unable to

investigate a hundredth part of the cases which occurred in this country, and he did not hesitate to say that a staff of double the number would be extremely useful, and for whom there would be plenty of work to do.

The PRESIDENT wished to point out that the Privy Council had undertaken a new responsibity in the Anthrax Order of March 1st.

Professor BROWN having further answered a question of Mr. Wells in reference to their travelling inspectors, the report was adopted.

Obituary.

THE following deaths have been reported by the Registrar of the Royal College:—John Womack. M.R.C.V.S., of Durham, who graduated in 1867; and E. W. White, of Sheffield, who graduated in 1878.

WE have received notices of the following deaths among our foreign colleagues:

In Bavaria, Professor Ramoser, for many years teacher in the Munich Veterinary School, aged 82 years.

At Buda-Pesth, Professor Zlamal, of the Veterinary school there.

In Toulouse, Professor Jongla.

In Italy, Dr. Lorenzo Corvini, Director of the Milan Veterinary School, and Professor Eletti of the same school; at Turin, in his 81st year, Professor Felice Perosino, late Director of, and teacher in, the Royal Veterinary School of that city.

In Spain, Professors Arrauz, Ronquillo, and Leoncio Gallego, of the Madrid Veterinary School, are dead. The latter was the editor of the principal Veterinary periodical in Spain, the *Veterinaria Espanuola.*

Army Veterinary Department.

Gazette, April 12th.

Inspecting Veterinary-Surgeon William Appleton has been placed on retired pay. Veterinary-Surgeon, First Class, William Albert Russell, to be Inspecting Veterinary Surgeon, vice W. Appleton. Dated April 6th.

Notes and News.

STRAY DOGS IN LONDON.—According to an official police return the number of stray dogs taken by the police during the month of March to the Dogs' Home was 1,246. Twelve were killed in the streets as mad or ferocious, eight by the police, and four by civilians. The number affected with Rabies was 2; with Epilepsy, 7; Pleurisy, 1; ferocious or savage, 2. Sixty-five persons, including two constables, were bitten by dogs during the month.

DAMAGING INOCULATION.—A French paper relates a mishap which may not be uninstructive. A veterinary surgeon in France had been supplied with a quantity of Swine Plague "vaccine," and protectively inoculated a lot of swine belonging to one of his clients. Unfortunately the pigs died, and the veterinary surgeon had to reimburse their owner. The *Echo du Midi* states that he is about to bring an action for recovery against M. Pasteur.

VACCINATION AND DISTEMPER.—M. Dupuis, of Brussels, has made a number of observations for the purpose of ascertaining the effect of vaccination on puppies, with special reference to its power of protecting them from the Distemper. He found that it was quite possible to inoculate them with vaccine, but that it had no protective influence against the disease.

RABIES AMONG THE DEER AT RICHMOND.—A serious outbreak of Rabies is reported to have occurred among the deer in Richmond Park, and a large

number of the animals have had to be slaughtered. The outbreak has so far been confined to one of the largest herds in the Park, and every precaution is being taken by the authorities.

EXPLOSION IN A VETERINARY SURGERY.—A few days ago an explosion occurred in the surgery of Mr. Joseph Welsby, veterinary surgeon, Mill-lane, West Derby, near Liverpool, causing serious damage and injuring a young man, who, being in the surgery at the time, had his face burnt and his hair and eyebrows singed. It is supposed that the explosion was caused by a bottle of ether. This is worth noting as a warning.

Correspondence.

ARMY VETERINARY ASSOCIATION.

SIR,—An error occurred in the report published in your last number, due to a mistake made in copying the proceedings of the meeting.

Veterinary Surgeon (First-class) R. Poyser is stated to have said that he should like to see as much of the manes and tails done away with on service as is possible. The word "tails" should be omitted.

FRED SMITH, *Hon. Sec.*

VETERINARY THERAPEUTICS.

SIR,—In perusing the VETERINARY JOURNAL for last month I was surprised, when reading the article on "Veterinary Therapeutics," to find the meagre stock of drugs considered necessary by the writer of the article in the practice of our profession. We read of the old charlatan carrying his stock of drugs and instruments in his wallet, which consisted of aloes, salts, a firing-iron, and a fleam; but, methinks, in these progressive times, we should require a greater variety of medicines for scientific treatment and experiment than the supply advocated by our military friend. It appears that some of our most useful drugs, which we know to have a specific action, are now condemned as being worthless, and if we believe it, our wonderful cures of the past must be looked upon as being due more to good luck than good management. Let us hope all our pharmaceutical preparations won't be considered worthless, otherwise some of the scientific non-practical men will be drifting back to the charlatan system of treatment. It would be gratifying to hear what drugs are useful, as it seems a folly in these times of competition and quackery to pay heavy drug bills. "COUNTRY V.S."

CONTAGIOUS PLEURO-PNEUMONIA.

SIR,—At page 302 of last month's issue, and under the title "The Scottish Veterinary Societies," I read that "Mr. Rutherford was glad he had not anything new to grapple with. He had also heard with greatest pleasure that Professor McCall to a large extent admitted his (Mr. Rutherford's) case, and agreed that there should be no retrogression. He could correct Professor McCall with regard to matters in Glasgow, but he preferred to pass them by."

Now, as I contend that Mr. Rutherford did not "pass them by," but on the contrary, by the method he employed, has directed more attention to them than if he had there and then entered into details, and, moreover, as I know of no reason why Mr. Rutherford should not unburden his mind, I now ask him in the interests of truth and the elucidation of the pathology of Pleuro-pneumonia and its treatment to do so.

Veterinary College, Glasgow. JAMES MCCALL.

INFECTIOUSNESS OF TETANUS.

DEAR SIR,—I beg to give you particulars of five interesting cases of Tetanus occurring at one place—viz., at The Dean, Kilmarnock, the residence of J. H. Turner, Esq., Factor to His Grace the Duke of Portland and Lady Ossington, and, if you should think proper to insert in your valuable journal, with a view to ascertain if any of its numerous readers have ever experienced anything of the kind, or if the question has ever been asked or answered—Is Tetanus infectious?

Having had the following five cases at the above place in little more than three years, it has been repeatedly asked of me, and answered in the negative: Possibly the situation has something to do with the recurrence of this disease?—which I shall briefly state. Situated in a valley on the side of a river, surrounded by hills, except in direction of river, in close proximity to an old freestone quarry, which is now filled with water, although kept fresh by a regular supply from the stream; also an old castle, part of wall of which forms back wall of stable, where light horses stand; the stables are modern; the average number of horses has been eighteen.

1. Traumatic; a grey hunting mare; from a bad over-reach in hunting-field; wound dressed with carbolic; doing well till eleventh day, when Tetanus set in. Treatment: Quiet loose box, chloral hydrate, Belladonna extract, Calabar bean, and calomel, with cold, wet blanket to spine. Destroyed on eighth day, in great distress, having gone down during night.

2. Idiopathic; brown Clydesdale stud mare, in foal; not doing any work. Treatment: Same as No. 1; no chloral hydrate. Died on eleventh day.

3. Idiopathic; Clydesdale entire roan colt; going at grass. Treatment: As he was very irritable, believing blood-letting the best and most direct sedative in the circumstances, I extracted from jugular two quarts of blood on second day; on third day he was less irritable, and continued to improve, and in two weeks was convalescent. Medicinal treatment: Calabar bean and calomel, alternate with Belladonna extract, and, externally, hot blanket to spine every hour. A good recovery.

4. Traumatic; brown carriage mare; injury to end of tail after docking, being injured on two occasions; requiring dressing, and styptic applied to stop hæmorrhage. Tetanus set in third day; after second injury. Treatment: Redocked and allowed to bleed freely—Medicinal and other treatment: same as last; and also made a good recovery in about four weeks.

5. Traumatic; brown hunting gelding; injury to abdomen in hunting-field; wound dressed with carbolic, and doing well. Horse out at exercise; Tetanus set in on twelth day. Treatment—Medicinal and external; same as last. Destroyed on sixth day.

I have tried blood-letting in several other cases, but with no good results, although both cases bled in foregoing list recovered.

Kilmarnock, N.B., March 26th. THOS. A. DOUGLAS, M.R.C.V.S.

RABIES IN EGYPT.

SIR,—In your journal for March, 1887, under the heading of "Notes and News," appeared an article on "Rabies in Cairo," in which it stated that there was an outbreak of Rabies in Cairo; this was correct.

The first case of Rabies appeared in August last; the subject was a terrier dog, owner in army of occupation; but "that the dog has bitten *several* native dogs." I am not in possession of evidence to corroborate that statement, which is unfortunate, but perhaps your correspondent is in a position to establish it a fact; until such is done, I for one must be excused if I fail to believe it.

In October, 1886, a child was reported to have died of Rabies. History of case reveals that six weeks previous to its death three children were

bitten by a native dog, and deceased was one of them. The child refused to drink water, showed some symptoms of convulsions, and it was considered a true case of Hydrophobia; but I for one am rather sceptical as to the correctness of the diagnosis. The other two children were immediately forwarded to Paris. About same time a man was bitten by a native dog, and forwarded to Paris; the dog was killed and forwarded to me to make a *post-mortem*. Except two small ulcers in stomach, caused, I believe, by animal having swallowed sharp pieces of bone, and back and head one mass of bruises, I detected nothing abnormal.

In January, 1887, a European dog, the property of an Austrian, showed rather suspicious symptoms; was placed by M. Piot and myself under observation, and in four days it died. A *post-mortem* was made, and we were of the opinion it was a true case of Rabies. Two rabbits were inoculated; fourteen days after the operation one died suddenly of congested lungs; on fifteenth day the other rabbit showed symptons of Facial Paralysis (spasmodic contraction of muscles of neck, lost all power of raising its head), and at 3 p.m. died. This was probably the Paralytic form of Rabies.

The owner of the dog in question was bitten by the dog, and the Austrian Consul, being informed by the Board of Health of the circumstances, immediately forwarded her to Pasteur. In May last (1886) a cat was reported to have bitten two *employés* in the Domains Administration in Upper Egypt. M. Piot, principal veterinary surgeon for the above administration, made two days after death a *post-mortem* examination of the cat; inoculated two rabbits, which, I believe, died from Septicæmia; thought it a possible case of Rabies, and the two *employés* were forwarded to Pasteur. From evidence produced I failed to agree with M. Piot's diagnosis.

In the same month, in Lower Egypt, a wolf was reported to have bitten about twelve people, principally women and children. The wolf was eventually killed. I believe it is customary for women and children in the mornings to go outside the villages to defecate, and whilst performing this act, the wolf appeared to have sprung upon its victims, and made, as I thought, a most determined attempt to obtain something to eat. In one case it was seen standing over a child, consuming a portion of its head. I saw the child afterwards, and observed a considerable portion of flesh and skin removed. Some doctors were of the opinion that it was an undoubted case of Rabies, but I could not share their views. To this day not one person who was bitten by the wolf has ever showed any symptoms of Rabies.

Since October last, I have had several dogs under observation, supposed to have been rabid, for the reason that they had bitten some unfortunate individual, but not one case of Rabies, save the one above mentioned, could I detect. The article further states that "a good many people have been bitten by rabid dogs and have died of Hydrophobia." This, in absence of other evidence, I refused to allow to be accepted as a correct statement, as I believe it to be totally untrue. "Some five or six thousand native dogs have been destroyed, but it is believed that many rabid dogs still remain." This statement conveyed the impression that the five or six thousand dogs that have been killed were rabid, and hence their destruction. This is not the case. It is, I believe, usual each year to destroy a few hundred dogs, otherwise they would become too numerous; but, in consequence of Rabies having appeared in Cairo, a larger number has been destroyed this year than, I believe, in former years. "That many rabid dogs still remain," I do not, with your correspondent, believe, who perhaps is in possession of facts to warrant such a belief if so I shall feel extremely obliged for information on the subject, when I would do my utmost to grapple with the disease. The above will give the readers of your journal an idea as to the extent of Rabies in Cairo, and thinking it my duty to offer the facts of the outbreak of Rabies

in Cairo is my excuse for asking you, sir, to permit this letter to appear in your journal.

WILLIAM LITTLEWOOD,
Board of Health, Cairo, March 13th. Chief Veterinary Inspector.

THE REJECTION OF STUDENTS, RELEGATING THEM TO THEIR STUDIES, AND THE THREE SESSIONS.

SIR,—The ratio of rejections of students at the present time is exceedingly heavy—perhaps greater than it has ever been before. Many of them are found more incompetent, more deficient in practical knowledge, than they were when they had only two sessions at college. Then both the student and the teacher felt bound to make an effort—*they knew there was no time to lose.* The student has now more time on his hands to waste and to loaf about. He thinks that there is no absolute necessity to be in a hurry—*time enough yet;* and I am strongly of opinion, if we decide (as some persons are inclined) to have another session added to the college curriculum, *it will be worse still,* and even a greater percentage of rejections will be the result. The students are now largely supplied from a different class than formerly; they are men who have seen little of sick or lame horses.

When the third session was inaugurated, Professor Simonds said: "This third session is asked for, for the express purpose of enabling us to devote it to practical teaching—to give the student that instruction we are unable to give him in two sessions." Now time has proved that it acts prejudicially; *it is a fruitful source of idle and dissolute habits*—in short, the reverse of improvement is the case. It is a waste of time to the student, and a *waste of money* to the parents, *many of whom can ill afford it.*

Again, it would appear that there is nothing to be gained by relegating the unsuccessful students to their studies; it is attended with no improvement in them, only in exceptional cases. The students come up again and again, not a bit better. It appears that the students who presented themselves from the Dick College last January were a bad lot; many of their faces were quite familiar to the Examiners. I sympathise deeply with Professor Walley in having such a lot—a lot that possibly no teacher could teach. Their characters are proved by their conduct in the streets.

It appears the three students that passed out of the twelve passed only by "the skin of their teeth"; and if there is any benefit to be derived in relegating students to their studies, it would have been for their good to have done it, instead of passing them. With regard to the nine students relegated for six months, it was purely for their benefit, if any benefit is to be derived from it. It is always done, hoping that it will be in the interest of the students; *there is no other object in doing it.* The Examiners, who are men of high character and devotion to their profession, are the judges; they are the only judges. We have full confidence in their competency and in their desire to act justly. But we must not blink this matter; is it worth our while to relegate students to their studies at all? It is nearly always found, I am sorry to say, that it is not attended with any beneficial results to the student. The only legitimate conclusion we can arrive at is that either *the method of teaching is of little or no use, or else that such students are invulnerable to instruction.* We are driven to this conclusion; there is no getting out of it. Many of such students have mistaken their calling, and the sooner they give it up the better.

I maintain if a student cannot be made fit to pass in two sessions he cannot in three or in four sessions. I am not alone in this opinion. I am borne out in this by every good and earnest student, by the head of the profession, the President, the Principal of the London College, and many other most eminent and excellent men. I have arrived at this conviction after much study of the question during fifty-three years' experience in my profession,

having watched it with a close observation in the college and out of the college, both in the examination of the students and in their efficiency afterwards in the sick-box. I am perfectly satisfied that numbers of students are passed who ought not have been passed. Some of the men are no credit to any calling; they are a disgrace to our profession. I know the Examiners have much more pleasure in passing students then in rejecting them.

But let us look this question fairly in the face; is there no hitch in the machinery elsewhere? Has the student every chance given him? Has he ample opportunity offered him to gain the practical knowledge which he is expected to possess when he presents himself before the Examiners? Has he had an opportunity of seeing a sufficient number of sick and lame cases at college to enable him to obtain a full knowledge, and become familiar with disease in its various forms and phases in the living animal? If he has not, how can we, I would ask, expect him to be anything else than incompetent in practical knowledge? Are we not told by some of the principals of colleges that that student is the best who comes to college wholly innocent of all horse knowledge? Is it not wonderful that such utter folly can be conceived, much less uttered in public.

Now let me ask in all earnestness, and in all sincerity, is it reasonable, is it conceivable, that a student who has had little or no chance of becoming proficient in manipulative dexterity, or in getting a full knowledge of disease, be equal to the one who has for years been fully engaged amongst sick and lame horses, and has become familiar with every phase of disease? Which student would acquit himself best before the Examiners? There are some persons who differ from me, who are apparently interested in defending existing arrangements. To such, I simply say, do you not see that great gaunt fact standing before your face—*incompetence in the student in practical knowledge.* All the ingeniously devised explanation of teachers will not suffice, or be a substitute for the absence of this knowledge. There it stands, a disgrace to the student and to the teacher. I maintain that whatever instruction be given, *that must not be neglected* which will the better fit him to stand the ordeal of examination successfully, and which will also prepare him to confront and cope satisfactorily with the many and varied cases met with in general practice. This is the point after all, to which both teachers, students, and Examiners should apply themselves most assiduously and most determinedly; all other matters are of second-rate importance.

After all, good may come out of evil. This disturbance in Edinburgh may cause a better method to be adopted, and in future none but those students fairly fit to go up before the Examiners will be permitted to present themselves. One redeeming feature I see in it is, that the Examiner who is so obnoxious to the Scotch students is not an Englishman. How would the student get on if the whole Board of Examimers consisted of such men—men of his nationality?

I hope I have placed before my readers various considerations and matters which may induce them to believe that whatever my action has been, it has been directed to one object only, and that is for the good of my profession.

Manchester. THOMAS GREAVES, F.R.C.V.S.

THOUGHTS ON READING COMMUNICATIONS IN THE MARCH "JOURNAL," RELATIVE TO THE BEHAVIOUR OF THE STUDENTS OF DICK VETERINARY COLLEGE.

SIR,—I deeply regret the recent disturbances at the above College, and I must allow the behaviour of the students was disgraceful, and not calculated to raise our profession in the eyes of the public; and whatever injustice they

may have suffered at the hands of an Examiner was wrongly and, without doubt, thoughtlessly resented. On the other hand, I feel fully convinced there must be a cause for such an outburst of ill-feeling.

Your correspondent, "North Briton," appears to me to forget that he himself was once a "newly-fledged student," and, I daresay, made many foolish mistakes; but, may be, veterinary surgeons north of Tweed rarely, if ever, err. I well remember hearing a F.R.C.V.S., who holds a very high position in our profession, and at the present time occupies a seat on our Council, and a gentleman whom I am proud to know and respect, say, "A man who says he never made a mistake is either a great fool or has done nothing;" and as I could not be so uncourteous as to call "North Briton" a fool, I attach the latter portion of the adage to his name.

"Sack" seems to think it advisable to write under an assumed name; therefore we cannot tell at what college he diligently pursued his studies; I should say, not at the above, for he appears to me to have a design against that institution, or its teachers, perhaps both. I would like to remind him that there is both a practical and theoretical examination for our diploma, and, if my memory serves me right, it is not customary for the professors to be present at the practical portion of the examination, though they frequently are at the theoretical, and it is just as likely for the grievance to have arisen at the former as the latter.

Then the professors could hardly be said to have "grossly neglected their duties to the students, etc." My experience with veterinary students has been tolerably large and rather recent, and I have always found them to have a deep sense of honour and right, but, on the other hand, very quick to resent any injustice, a quality which I think we can hardly blame them for.

I fully endorse Mr. Tom C. Fletcher's remarks, and I hope enquiries will be instituted both on behalf of the students and the Examiner; I use the singular, as I am sure the feeling of injustice and animosity is against one Examiner, and one only.

That, my dear sir, seems to me rather peculiar; for if the students had acted without the slightest provocation, surely they would have wreaked their vengeance on the whole of the examining body and not on one particular Examiner, together with other gentlemen (I am sure they greatly respect) who unfortunately happened to be with him. Mr. Fletcher says, or rather writes, "five years ago bad feeling was evinced towards one particular member of the examining board." That I fully believe, and I can speak of a more recent date, when I was personally connected with the Examiners, and I would not like to repeat the remarks then made in reference to this special examiner, but I can assure you they were anything but complimentary; and they emanated, not from rejected students, but from those who, like myself, were fortunate enough to pass.

"An Old Practitioner" satisfies himself at once who is in the right and who in the wrong; but, Mr. Editor, I question if old practitioners are not less able to form an opinion in this matter (as to whether or not there existed a cause for complaint) than those who have had personal experience with this individual Examiner; and I should be very glad to see those gentlemen come forward and express their opinions in print, so that the whole of the profession, as well as our respected Council, may judge for themselves, when I have little doubt but what the Council (and I trust, supported by every M.R.C.V.S.) will adopt suitable measures to redress the aggrieved party or parties.

JOHN BLAKEWAY.

Birmingham, 23*rd March*, 1887.

SIR,—I have been much surprised that more of your correspondents have not written to express their disgust at the conduct of the students who took

part in the late assault on the Examiners in Edinburgh, and also at the conduct (far worse to my mind) of the Professor who took the chair at the subsequent meeting of Dick's students. It is to be hoped the veterinary surgeons of the future are not going to be tutored by men of his class; if they are, they will not raise the profession in the eyes of the public. When I was at college eight or nine years ago, I often heard students who went by the name of "chronics," and also those who never read till a few weeks before the examination, say "So-and-so plucked me; he is not fit to examine; he won't pass any one, if he can help it." Now, it is a strange thing, but I heard the same thing said by different students, and at different times, of nearly all the Examiners. For my own part, I thought *all* the Examiners at each of the examinations were most kind and considerate. Of course, if there is an incompetent Examiner on the board, he should at once be asked "by our Council" to resign, and I am quite sure they would give every consideration to any complaints made to them "in a proper manner" by students or professors.

A COUNTRY VET.

NATIONAL VETERINARY ASSOCIATION.

DEAR SIR,—Will you kindly allow me, through your columns, to ask the gentleman who forwarded me a postal order (issued at Devonshire Street on March 14th, 1887) which I received on March 15th—with no name or indication of the sender, beyond the London postmark on the envelope—to forward his name, and I will remit a receipt for it.

Also to remind those who have not yet paid their subscriptions to do so at once, as the expenses of the Association have been exceptionally heavy this year, and the Treasurer has not sufficient funds in hand to meet the liabilities of the Association unless some of the arrears are paid in.

I should like to take this opportunity of asking those members who have not yet sent in answers to the question on "The Horse Shoeing Forge," to kindly do so at once, and remit them to

Downing-street, Cambridge. GEO. A. BANHAM, *Hon. Gen. Sec.*

VETERINARY JOURNALISM.

SIR,—A writer who signs himself "Amicus" in your March number of the Journal, attacks me in unmeasured terms for what he considers "fouling my nest," because I have expressed my good wishes for the success of the *Journal of Comparative Medicine and Surgery*, which that journal has now achieved, not only in India, but in other countries also.

Without attempting to discuss the reasons for my opinion regarding the merits and general finish of that journal as it is now issued by its present editors, or giving "Amicus" an opportunity of again giving vent to his private feelings towards myself or towards the editors of the above-mentioned periodical, I may only refer to your own remarks in the Journal for March last, on page 176, which should be a sufficient guarantee in itself to secure a not too narrow circle of readers for the *Journal of Comparative Medicine and Surgery*, wherever the English language is spoken.

I may state here at once, that I have no interest in the publication of any journal in particular, as "Amicus" appears to possess, except my good wishes for the success of *any* journal which deals with subjects immediately connected with the profession I would see advanced by every means in my power, and whose chief aim has been for very many years, I believe, the improvement of its literature, and not as "Amicus" would probably desire it, the settlement of private interests at stake in special cases. I may inform "Amicus" that, were he to undertake to publish a journal of the same scientific tone and high standard as the one of *Comparative Medicine and*

Surgery admittedly is, I would gladly subscribe for it, as for any other of equal merit.

"Amicus" is jealous of my "notoriety" in the "Western Hemisphere," of which he speaks at length in his communication; but as this is an entirely private matter, I will pass his remark unnoticed.

In conclusion, "Amicus" hopes he will hear no more of me, nor of my communications. Why not? I should be very glad to hear more of "Amicus."

Jubbulpore, *25th March*, 1887. R. W. BURKE, A.V.D.

DEGENERATING COMPETITION.

SIR,—A short time ago, having selected a country district in which there was no qualified practitioner, I determined to commence practice there.

I have now just got settled and am beginning to get known, when another professional man thinks fit to oppose me, and has sent circulars to all in the immediate neighbourhood except me.

Now, don't you think it would have been better form on his part had he either called on me in the first instance, or at least favoured me with a circular?

I enclose you a card of another veterinary surgeon, which was given to me the other day. Comment on this is, I think, needless.

April 14th, 1887. "THE MAN FROM SHROPSHIRE."

[The card enclosed is certainly a very disgraceful production.—ED. V. J.]

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

The next meeting of the above association will take place in the Medical Institute, Hope-street, on Friday, the 13th of May, when Prof. Robertson has kindly consented to read a paper on "The Surgery of the Head and Face."

H. SUMNER, *Hon. Sec.*

Communications and Reports held over this month shall appear in our next.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from F. Billings, Nebraska, U.S.A.; T. A. Douglas, Kilmarnock; J. Blakeway, Birmingham; W. Littlewood, Cairo; R. W. Burke, A.V.D., Lahore; F. W. Barling, Edinburgh; A. Hunter, Newcastle-on-Tyne; W. F. Weese and L. R. Brady, Ontario; N. Smith, London; A. Baird, Edinburgh; J. G. Cross, Shrewsbury; T. Greaves, Manchester; H. Helsham-Jones, Woodbridge; A. Broad, London; F. Gooch, Stamford; F. Eassie, York; G. H. Fenton, A.V.D., Kamptee; "A Country Vet."; E. W. Hoare; W. Penhale, Exeter; E. A. Hollingham, Tunbridge Wells; Dr. Duncan, Toronto; J. Dowling, London; "The Man from Shropshire."

BOOKS AND PAMPHLETS: *W. S. Adams*, Stable Management and a Few of the Diseases of Horses in India; *W. Axe*, Report of an Outbreak of Diphtheria at Frimley; *E. A. Ormerod*, Report of Observations of Injurious Insects and Common Farm Pests; *A. Vachetta*, La Chirurgia Speciale degli Animali Domestici.

JOURNALS, ETC.: *Archiv f. Wissenschaftliche und Praktische Thierheilkunde; Veterinary Review; Agriculture; Annales de Médecine Vétérinaire; Mark Lane Express; Echo Vétérinaire; Journal de Méd. Vétérinaire et de Zootechnie; Live Stock Journal; Revue Vétérinaire; American Live Stock Journal; Lancet; Repertorium der Thierheilkunde; Journal of the National Agricultural Society of Victoria; Medical Press and Circular; Recueil de Médecine Vétérinaire; British Medical Journal; Clinica Veterinaria; Edinburgh Medical Journal; Wochenschrift für Thierheilkunde und Viehzucht; London Medical Record.*

NEWSPAPERS: *Madras Mail; Scottish Leader; Edinburgh Evening Mail; Scotsman; Asian; Leeds Mercury; Montreal Gazette.*